

**GIS APPLICATION  
FOR  
BUILDING INFORMATION MANAGEMENT**

by

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1827

Dissertation submitted in partial  
fulfillment of the requirements for the  
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(Civil Engineering)

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Universiti Teknologi PETRONAS  
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# CERTIFICATION OF APPROVAL

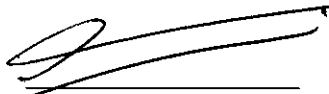
## **GIS Application for Building Information Management**

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A project dissertation submitted to the  
Civil Engineering Programme  
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in partial fulfillment of the requirement for the  
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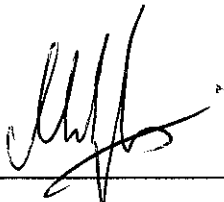
Approved by,

  
(Abdul Nasir Matori)

UNIVERSITI TEKNOLOGI PETRONAS  
TRONOH, PERAK  
DECEMBER 2004

## CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and the original work contained herein have not been undertaken or done by unspecified sources of persons.

A handwritten signature in black ink, appearing to read 'Mohd Azlan Norzan', written over a horizontal line.

MOHD AZLAN NORZAN

## **ABSTRACT**

The project title is “GIS Application for Building Information Management”. The purpose of the project is to develop a GIS database in order to assist in building maintenance works. Maintenance is a very important activity especially for well-developed countries. For instant, Malaysia has a numerous number of high-tech engineering structures which require regular maintenance. They are Kuala Lumpur City Centre (KLCC), Kuala Lumpur International Airport (KLIA), Putrajaya Government buildings and Midvalley Megamall shopping complex; to name a few. Budget for maintenance works may be limited for each building. Thus, proper maintenance management should be done to minimize cost or to perform the maintenance within the given budget. The scope of the project will focus on several critical aspects in building maintenance, by preparing a database that is user-friendly and easily accessible by users. Users in this case refer to maintenance engineers and managers. In order to complete the project, research for raw data and drawing plans regarding building maintenance must be done. Then, this information will be inserted in a newly developed database using a GIS application. Learning GIS-based software is a very crucial task for this project. The GIS application chosen for this project is MapInfo Professional 7.0. Other than that, Microsoft Visual Basic .NET is used to manipulate the GIS data. The final product from the project is a system, which can assist the engineers and managers in building maintenance management.

## **ACKNOWLEDGEMENT**

***Bismillah ar-Rahmani ar-Raheem***

**In the Name of Allah, the Most Compassionate, the Most Merciful**

Alhamdulillah, thanks to Allah, with His guidance and bless then, I managed to complete the Final Year Project entitled “GIS Application for Building Information Management”.

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I also would like to give special appreciation to Mohd Khairul Zarir Ahmed Lokman, Information Technology student; for his help in learning ArcView and Microsoft Visual Basic .NET. Special thanks to Miss Saadiah, Laboratory Assistant; for her assistance and help in understanding the MapInfo application.

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## **ABBREVIATIONS**

<b>AutoCAD</b>	AutoCAD 2002 software
<b>BIMUTP</b>	Building Information Management for UTP Academic Complex
<b>ESRI</b>	Environmental Systems Research Institute, Inc.
<b>GB</b>	Gigabyte
<b>GHz</b>	Gigahertz (to represent computer processor's clock speed)
<b>GIS</b>	Geographical Information System
<b>GPS</b>	Global Positioning System
<b>GUI</b>	Graphical User Interface
<b>IT</b>	Information Technology
<b>MapInfo</b>	MapInfo Professional 7.0 software
<b>OOP</b>	Object-oriented Programming
<b>SDLC</b>	System Development Life Cycle
<b>UTP</b>	Universiti Teknologi PETRONAS
<b>VB</b>	Microsoft Visual Basic .NET software

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1. Project Background**

Maintenance is very important after the construction of any building has been completed. Building maintenance is the process of keeping the building in a good condition to ensure its facade, durability and functionality.

Maintenance shall be done appropriately within the available budget. Proper database of the building will enable the maintenance process to be properly scheduled and prioritized. Hence, this will optimize the maintenance process using minimum budget. In real life situation, everybody will try to minimize the cost spent for building maintenance.

Using GIS application, the database containing information about the building will be easily accessible to the users. Checklists can be made directly from the computer application since the whole system has been computerized into a single database. Thus, maintenance process will be carried out properly.

The maintenance engineers save the hassle to check all maintenance data which are stored manually. Instead, by applying GIS to plan for building maintenance, the maintenance is expected to be carried out effectively within the given time frame and budget.

## **1.2. Problem Statement**

Maintenance of a building could be costly and therefore it could be neglected due to the high cost. However, if there is a proper database (in GIS), such maintenance process could be properly scheduled and prioritized and hence optimize the maintenance process within the available budget.

### *1.2.1. Problem Identification*

The problem arose when there is a maintenance budget limitation for a specified building. In order to perform the maintenance, managers or engineers need to prioritize which maintenance to be performed first. Improper prioritization might cause problems to the effectiveness of building functions; i.e. factories and schools. The author will cater the problem by proposing a system prototype development, using a GIS database.

### *1.2.2. Significance of the Project*

The final product from the project is expected to assist the maintenance managers or engineers to properly schedule and prioritize maintenance works to be done within the limited budget. Hence, the effectiveness of the building functions will be preserved.

## **1.3. Objectives and Scope of Study**

The objectives of this project are:

- To find and analyze the maintenance works required for a specific building.
- To develop a GIS database for a building for maintenance purpose.
- To create a system with a user-friendly interface and efficient to be used for building information management globally.

### *1.3.1. The Relevancy of the Project*

Structures all over the world need to be maintained. Thus, this activity has become one of the major employment opportunities to the people worldwide. Structures like skyscrapers, bridges, highways and other engineering structures require regular monitoring and maintenance. Accordingly, any reduction in resources applied to building maintenance will have a visible effect on the national economy. This is due to the fact that in United Kingdom, it currently accounts for maintenance expenditure of approximately £20 billion (Technology Foresight Construction Sector Panel, 1995). Towards becoming a fully developed country, Malaysia is expected to possess many great buildings and structures which require high cost for maintenance, which includes civil and structural maintenance.

For this reason, this project is paying particular attention to the development of a new maintenance management approach aimed at reducing the maintenance costs of building. This project will describe a new, systematic framework for selecting a suitable maintenance strategy for each individual item in a building with the assistance from the GIS database. The exponential growth in computer development encourages the application of computer for all purposes.

### *1.3.2. Feasibility of the Project within the Scope and Time Frame*

The scope of the project has been narrowed down, since the development of the database requires long period. The scope is divided under two parts, which are spatial data and attribute data.

Spatial data of the project is narrowed down to Building 13, instead of the whole UTP Academic Complex. On the other hand, attribute data to be covered are lighting and fire alarm system. Other data may be added as well to provide wider range of maintenance management. However due to the limited time frame, these aspects are not included within the scope. Examples of other aspects are building structure (columns and beams), floor tiles, glass panels, doors, windows and elevator.

## **CHAPTER 2**

### **THEORY / LITERATURE REVIEW**

#### **2.1. Definition of GIS**

A Geographical Information System (GIS) can be defined as a system for capturing, storing, checking, manipulating, analyzing and displaying data, which are spatially referenced [1]. From the U.S Geological Survey, GIS is a computer system capable of assembling, storing, manipulating and displaying geographically referenced information. Raw geographically referenced information, which is geographical data stores information about the location, shape and attributes of real objects. These data gathered and captured in digital form so that it can be used to store and reproduce as useful information. The power of computer enables this information to be manipulated, updated and analyzed in many different ways. [5]

##### *2.1.1. GIS Evolution*

Geographical analysis started since 1930s and 40s where different types of maps of the same area were overlaid. In 1950, Tyrwhitt invented the technique of map overlay. It is a technique where maps were traced onto transparent overlays for use in land analysis and presentation. It does not just stop there where in 1962; two planners at Massachusetts Institute of Technology had evolved the map overlay idea into weighing, by making the overlays different in their importance with respect to each other (Keith C. Clarke, 2001, p.10). When the usage of computer becomes familiar around 1959, many computer programs were developed to draw map using primitive printers and plotters. Since then, a lot of computer programs had been developed for map digitization and geographical data analysis and manipulation. DIME (Dual Independent Map Encoding) is the major

breakthrough in the history of geographic information representation. DIME together with the resultant files, called Geographic Base Files (GBFs) recognized that attribute information which is all the data collected and computer map used in planning could be integrated for mapping and search for geographic pattern and distribution which later known as data mining. Hence, it is clear that since 1950s systems have evolved to convert map into digital form and until now being used for analysis and problem solving.

### *2.1.2. Spatial and Attribute Data*

All GIS analysis begins at the same point; you have to know what you need to know. The process of answering this question inevitably leads you to make decisions about the information that is relevant to the task. For this reason, it can be said that data is at the heart of every GIS project. Depending on the data that is presently maintained (databases, spreadsheets or other files), you may have much of what you need on hand. Usually, however, you will have to obtain at least some information from outside sources. In order to do this, it is very important to know two main categories of data used in GIS.

A GIS integrates two fundamentally different types of data. One type defines the shape and location of places -- this is called spatial data. The other type describes those places, and the people who live in them and the things that happen there -- this is called the attribute data. Put succinctly, spatial data enables you to draw a map; attribute data makes the map meaningful.

Although they are structurally different, spatial and attribute data live symbiotically in a GIS, and it is hard to talk about one apart from another. The map files you get from commercial and non-commercial sources normally include both.

### *2.1.3. Vector, Raster and Image Data*

Spatial data itself can be divided into three types. The most common type in GIS is called vector data. Vector data represents geographic features as either points, lines or polygons.

Polygons tend to be used for sizable area like countries or ZIP codes; lines or things like streets and rivers; and points to represent specific locations.

Raster data takes a different approach to the mapping problem by dividing geographic space into a matrix of identically-sized cells. Each cell is linked to a number that stands for some geographical property (i.e. “1” for land, “2” for sea and “3” for shore).

The third type of data is image data, which includes such things as satellite and aerial photographs, and optically scanned paper maps. Strictly speaking, image data is a kind of raster data, because an image is composed of uniformly-sized cells (pixels) linked to specific numbers – numbers that represent a color or grayness value. Image data can serve as a visual backdrop to vector data. It can also be used to create vector data through a digital tracing process, or even for analysis in a discipline known as remote sensing.

## **2.2. GIS Application in Modern World**

“Geographic Information Systems (GIS) have appeared in business in the last decade. While growing at a rate of 20-30% per year (Daratech, 1995), some observers argue that GIS is under-exploited by business for competitive advantage (e.g., Castle, 1993a). Can GIS contribute to competitive advantage? Framework for global strategy is used to explore how GIS technologies may contribute to strategic choices and therefore to competitive advantage.”

“GIS enables yet another approach: conceiving of geography not as a constraint, but as a variable to be manipulated and managed.”

***Lisa D. Murphy*** [4]  
School of Business, Indiana University, Bloomington IN  
[limurph@indiana.edu](mailto:limurph@indiana.edu)



“When the UDS GIS Committee began its task of selecting a pipeline information system, we were well aware of the broad range of options available for our consideration. None of us were GIS experts. We had only broad directives regarding system functionality. Our budget was limited, and we were quite sure that a million-dollar solution would never receive approval. In addition to the many commercial GIS alternatives, we were being asked to consider a data management system being developed internally. The challenge before us was considerable.”

**Gerald Childers [4]**

Ultramar Diamond Shamrock Corporation (UDS)  
P.O. Box 696000, San Antonio, Texas 78269-6000

“As the GIS Committee was beginning its deliberations, some of our members were exposed to an Internet GIS program from Autodesk. Because we used AutoCAD already, we felt fairly comfortable in looking at a GIS product from Autodesk. The product was called MapGuide and was shown to us. The developed application we were shown was a GIS for a pipeline system. And, among the capabilities demonstrated were hypertext links to documents from a base map of the pipeline system. The fact that MapGuide ran in a browser like Netscape’s Navigator or Microsoft’s Explorer was also appealing to us. It appeared that the MapGuide system would allow us to use the documents we had already scanned. It would also allow us to use them as we had originally intended. Since the program ran in a browser, it seemed obvious to us that it was easy to learn and easy to use. “Ease of use” was very important to us.”

**Robert Keating [4]**

Topographic Engineering Company  
6709 N. Classen, Oklahoma City, OK 73016

2.3. The Project From Civil Engineering Perspective

2.3.1. Building Maintenance

Building maintenance can be classified into two categories, planned and unplanned. Under these two categories, the maintenance can again be divided into preventive and corrective maintenance.

Planned maintenance consists of list of works which are expected to be done in a maintenance cycle. Unplanned maintenance is the list of works which have to be carried out beyond the plan due to unexpected errors or failures. Preventive maintenance is done to prevent damages, while corrective maintenance is done to bring the item or equipment back into functionality from errors or failures. Scheduled maintenance is done periodically based on the schedule. On the other hand, condition-based maintenance is done when the condition of the item or equipment is below par. [8]

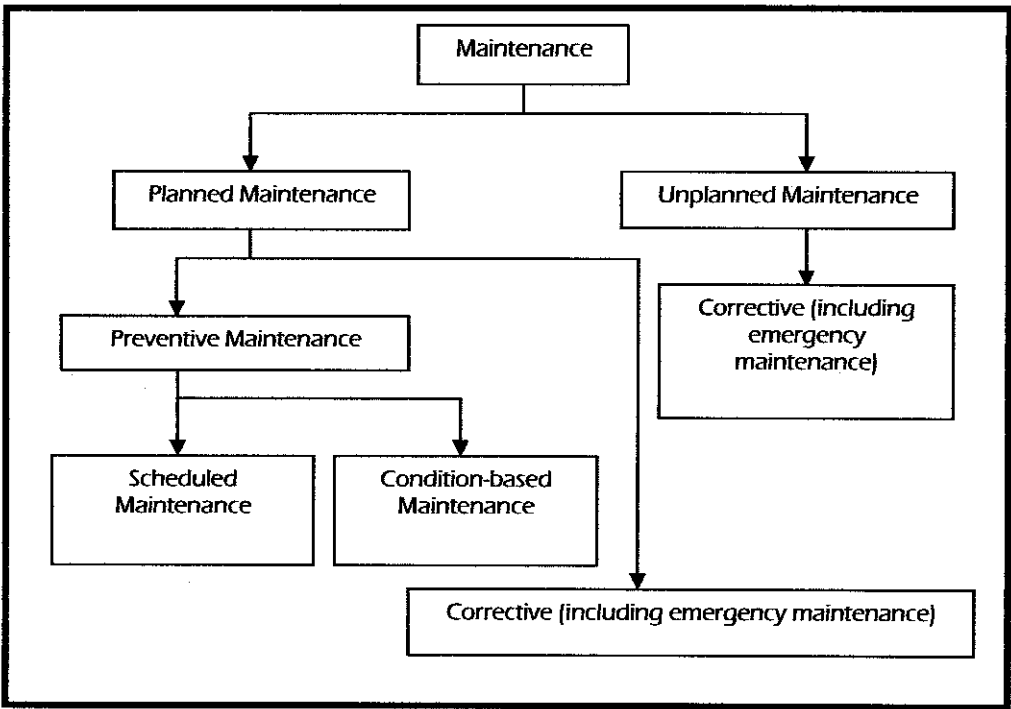


Figure 2.1 Types of Maintenance

### 2.3.2. *GIS in Geomatics Course*

GIS is first introduced to Civil Engineering students in Geomatics course. The term is usually related to GPS. GIS and GPS are widely used in fields related to mapping system and position coordination. The students are also introduced to one of GIS softwares, MapInfo 7.0 Professional. However, the students are not exposed to the usage of the software thoroughly.

Map digitization is the basic building block for GIS function. By having digitized map, only then other GIS functions can take place by manipulating this map. Map digitization is one of the methods for geospatial data collection besides surveying and remote sensing. Maps are digitized by converting paper maps into electronic form using digitizer such as scanner. Surveying on the other side is the more complex and complicated way of geospatial data collection. Measurement of an area is taken directly from the real world, which involves direct intervention from surveyors within the area to be digitized. Traditionally, people use physical tools such as chains and tapes to measure distance or a device called theodolites to measure direction. But, with the emerging of Global Positioning System (GPS), data capturing become more reliable and accurate. It enables positioning of objects on or above the earth surface in an absolute sense. Furthermore, the usage of satellite in GPS replaces the role of surveyor in site measured leaving the surveyor with less hassle computerized surveying activities.

Remote sensing is another method for data collection. It uses aerial and space imagery to record geographical information with the help from additional sophisticated devices. It includes the interpretation of additional phenomena such as land type by detecting Earth's reaction to different wavelengths of electromagnetic radiation.

### 2.3.3. *MapInfo as the GIS Software*

MapInfo Professional version 7.0 is the latest release by MapInfo Corporation of their desktop GIS software product. MapInfo organizes all its information within the software in the form of tables that are stored with a .tab extension. For instance, when opening up an Excel spreadsheet in MapInfo, the software will automatically create a .tab file which describes the structure of the Excel data without modifying the Excel table. Tables that include spatial features have a .tab extension, but the graphic features are stored in a file with a .map extension. MapInfo can open tables from Microsoft Access and Excel, dBase, delimited ASCII, Lotus1-2-3, ESRI shapefiles, and Raster and Grid images. Tables remain open in Mapinfo until the user close the table from using the File-Close Table menu. Mapinfo stores the configuration of the open tables and windows into a workspace file (.wor). [2]

MapInfo allows the users to create a thematic map by allowing the usage of digitized maps or raster images. Symbols are onto the maps by simply clicking on the maps after setting the type of symbol to be used, one at a time.

### 2.3.4. *GIS Approach versus Traditional Approach in Building Maintenance*

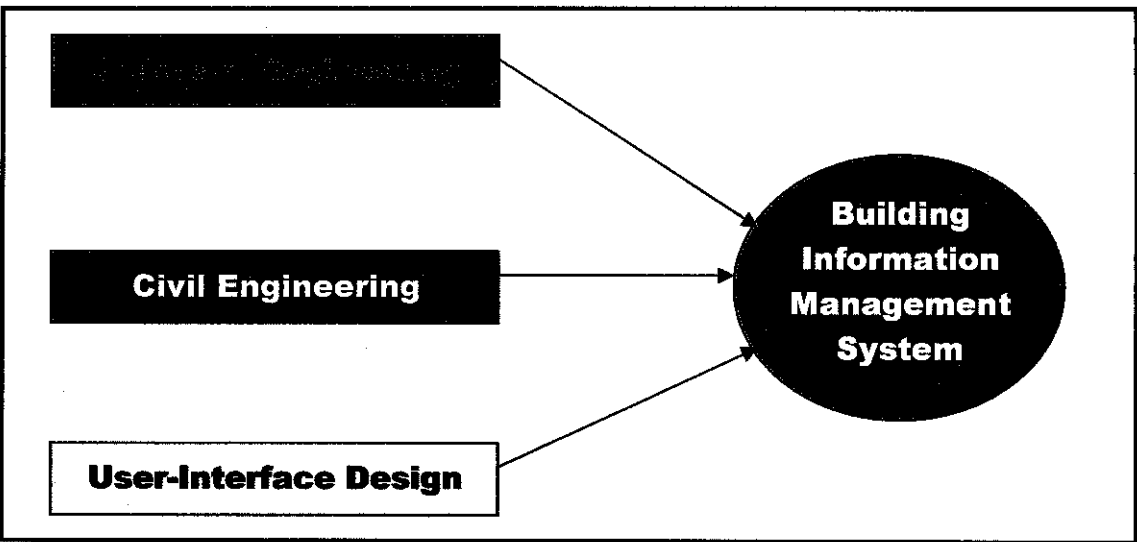
Advantages of using GIS approach are obvious compared to the traditional approach. GIS approach uses a system to store and manipulate the maintenance data. Meanwhile, traditional approach requires manual access to the databases, spreadsheets or files containing the maintenance data. Advantages of using GIS approach are listed below:

- Better data accessibility.
- Systematic and convenient storage of database.
- Time saving for maintenance planning.
- Better accuracy in decision making. [3]

**2.4. The Project from IT Perspective**

**2.4.1. Software Engineering**

This project is an interdisciplinary activity involving knowledge drawn from different backgrounds. This knowledge is required to consider all implications of the system design.



*Figure 2.2 Interdisciplinary Involvements in the Project*

Because software is inherently flexible, many unexpected problems are left to software engineers to solve. Software engineers are often left with the problem of enhancing the software without increasing the hardware cost. The solution may be to enhance the processing capabilities of the software. [7]

However, in this project, the main concern is to accommodate the decision making decision for maintenance. Therefore, there is no limitation to the design of the system.

## **CHAPTER 3**

### **METHODOLOGY / PROJECT WORK**

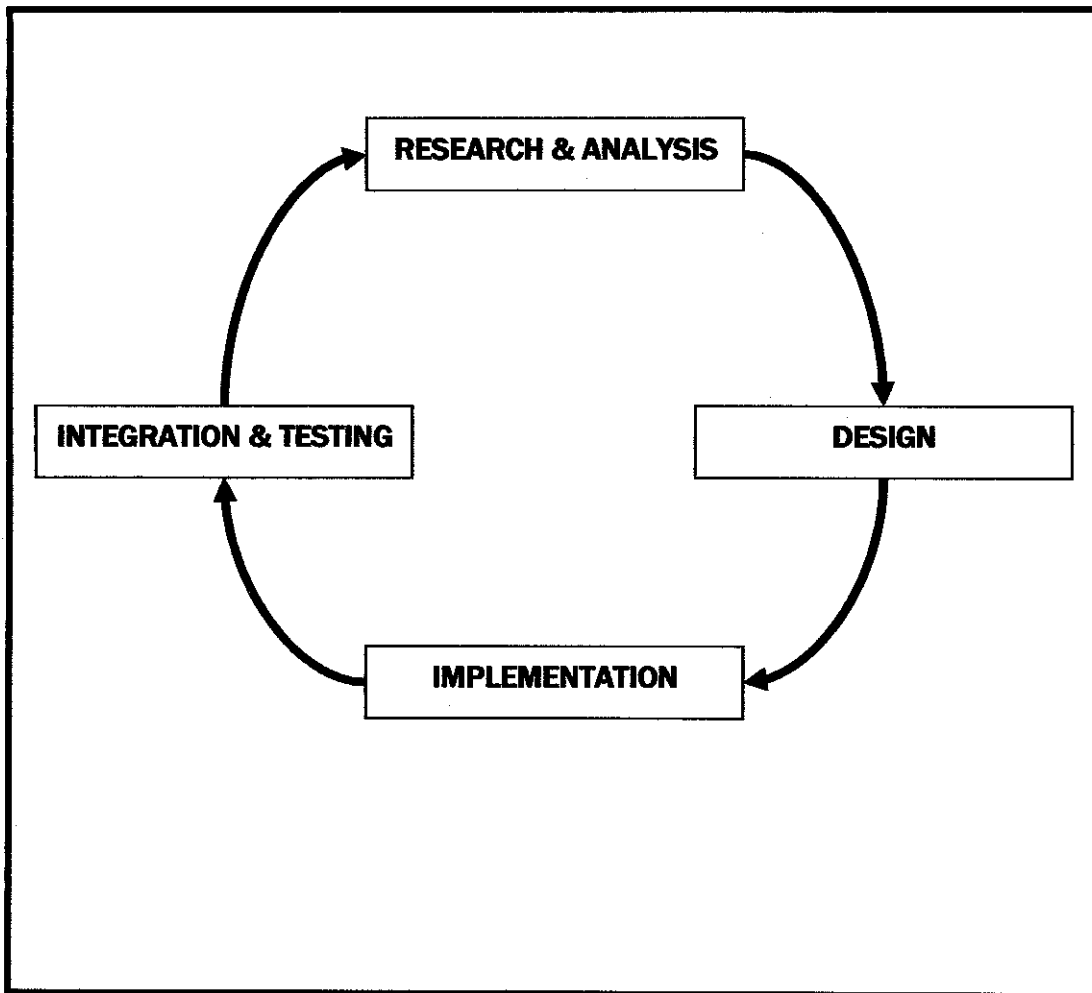
The methodology on how the project was conducted is discussed in this chapter. The preliminary research was conducted to get the overview of the topic and to design the milestone or Gantt chart. This project is planned to be completed in two semesters. The first half of the semester was used to concentrate on the data collection and the project interface design. In the second semester, focus is given on generating the database using MapInfo and integrating it into VB.

#### **3.1. Procedure Identification**

The approach used for this project is a cycled process. It is called System Development Life Cycle (SDLC). Although the SDLC model has been followed, the author has chosen to eliminate one part of the process, which is operation and maintenance. Thus, there are four phases involved; Research and Analysis, Design, Implementation, and Integration and Testing.

##### ***3.1.1. Research and Analysis***

In this phase, the author did a study and research regarding the requirements of the project. The author also did research on GIS and current building maintenance management practice. The author discussed with the supervisor on how the system will be and the features that need to be included. The scope of the project was also identified during the discussion.



*Figure 3.1 SDLC Approach for the Project*

The author also learned how to use softwares related to the project, such as AutoCAD 2002, MapInfo 7.0 Professional, Microsoft Visual Basic .NET and ArcView 3.2. The expertise of using these softwares is very crucial for the development of final product.

Data acquisition was done during this phase. Data required for this project are UTP maps and maintenance data. The data are obtained from KLCCB Document Control Unit in form of AutoCAD drawings.

### *3.1.2. Design*

During the design phase, the first thing to be created is the GIS database, using MapInfo. In order to manipulate the database, VB is used. The final product expected from the project is a system or program, which enable the user to manipulate the data for building maintenance purpose. VB is used since MapInfo does not allow variation in data manipulation.

User-interface design is very important for the system. The flow of the system must be easily understood. Items featured in maps in the system should be easily identified. Manipulation of data must be arranged properly to allow viewing and modifying.

### *3.1.3. Implementation*

This is the phase where the GIS databases are prepared and the VB codes are generated. Data from AutoCAD files are converted into MapInfo tables manually by the author. While doing the coding process, the author needs to check the codes by debugging the codes from time to time. If the codes are free of errors, the pages will display successfully. Otherwise, the error will be displayed on VB error browser.

### *3.1.4. Integration and Testing*

Integration is the process where the database and the system are integrated to enable the manipulation of data. When integration process takes place, bugs and errors will always be found. The existence of bugs and errors require the author to test the system from time to time to eliminate all these bugs and errors.



### **3.2. Tools / Equipments Used**

In order to construct the final product, there are several tools used.

#### **3.2.1. *Computing Facility***

The computing facility is provided by the student with the capability to run the required softwares, preparing reports, accessing data, learning GIS application and presenting the outcome of the project. The computing facilities are equipped with softwares to assist the progress; for example, Microsoft Word, Paint and AutoCAD 2002.

The computer facility specifications are as followed:

- Platform: Microsoft XP Professional, supports .NET Framework version 1.1
- Processor: Intel Pentium IV 2.53 GHz
- Memory: 1GB RAM
- Hard drive: 80 GB
- Compact discs for data storage
- Internet Explorer version 6.0

#### **3.2.2. *Development Tools***

Development tools are softwares used during the implementation phase of the project.

- AutoCAD 2002
- MapInfo 7.0 Professional
- Microsoft Visual Basic .NET

### *3.2.3. Building Maintenance Data*

Building maintenance data are required to prepare the database for the application. The data are in form of AutoCAD drawings and are extracted by the author into MapInfo tables. Pictures and records are made from time to time for every item included in the project.

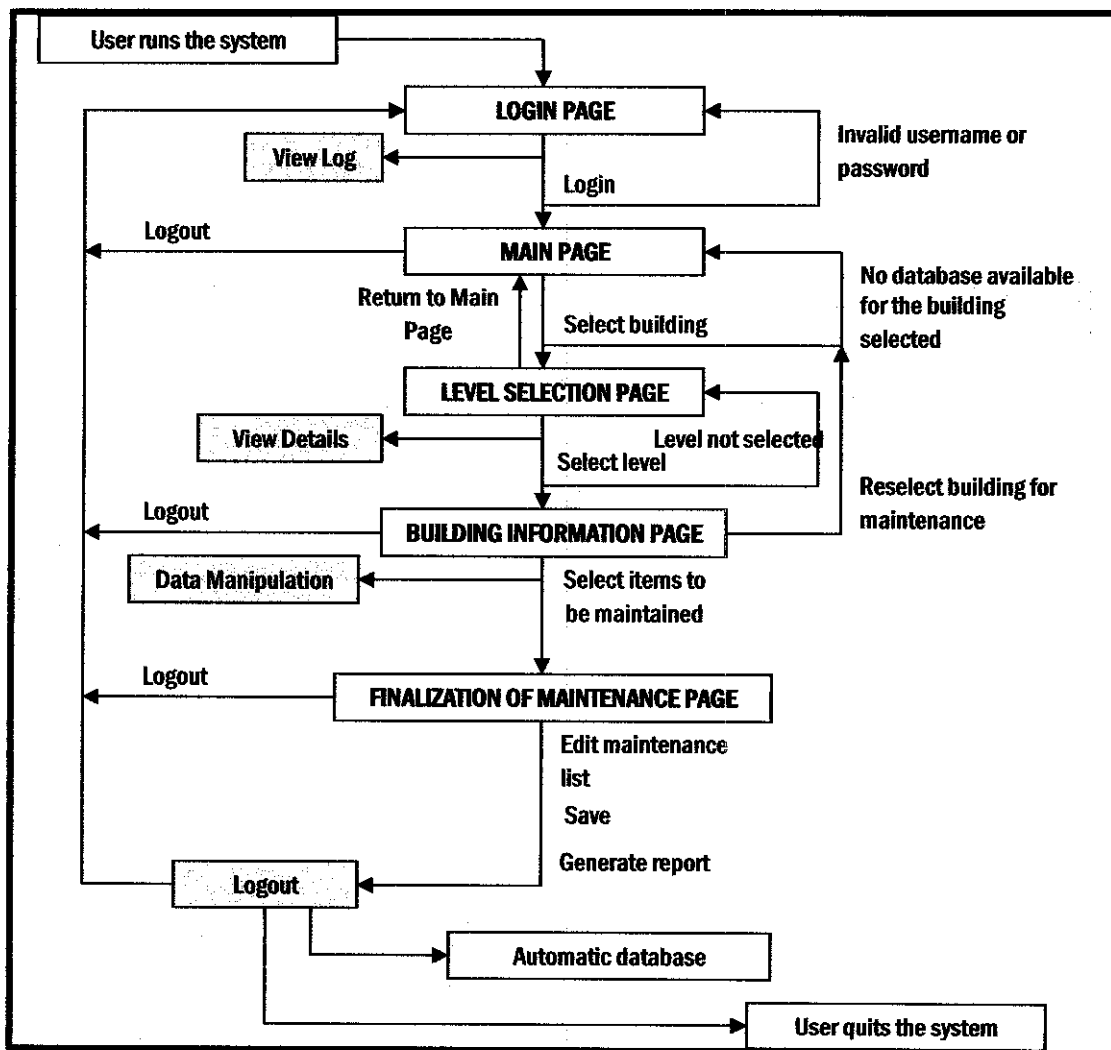
## **CHAPTER 4**

### **RESULT AND DISCUSSION**

The final product from the project is a stand-alone system which allows the users to access and manipulate the database to do maintenance planning. The system is named as “Building Information Management for UTP Academic Complex (BIMUTP)”.

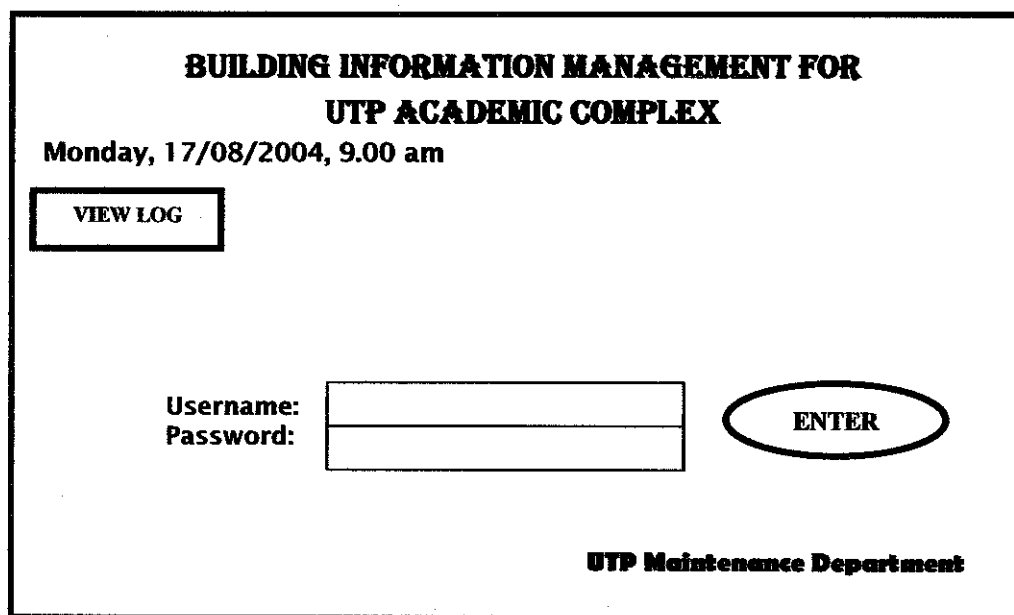
#### **4.1. Flow of the System**

Flow of the system shows how the users are going to use the system. It starts from when the user starts running the system until the user quits. While using the system, users can move from page to page and give specific task the system. By creating the flow of the system, it allows the system administrator to monitor the system performance and recommends any upgrades or changes. The flow is shown in Figure 4.1.



*Figure 4.1 Flow of the System*

#### 4.1.1. User Login Page



The image shows a user login page for the 'BUILDING INFORMATION MANAGEMENT FOR UTP ACADEMIC COMPLEX'. At the top, the title is centered. Below it, the date and time 'Monday, 17/08/2004, 9.00 am' are displayed. A 'VIEW LOG' button is located on the left. In the center, there are two input fields for 'Username:' and 'Password:'. To the right of these fields is an oval-shaped 'ENTER' button. At the bottom right, the text 'UTP Maintenance Department' is displayed.

**BUILDING INFORMATION MANAGEMENT FOR  
UTP ACADEMIC COMPLEX**

Monday, 17/08/2004, 9.00 am

**VIEW LOG**

Username:   
Password:

**ENTER**

**UTP Maintenance Department**

*Figure 4.2 User Login Page*

User Login Page (kindly refer to Figure 4.2) requires the user to login using the given username and password. The purpose of this page is to prevent unauthorized access to the system. By viewing the login log, the administration is able to identify the person who makes any changes or updates to the maintenance database. Precisely, only people with specific tasks can access the database and make any changes to it.

By clicking on the 'VIEW LOG' button, a small window will appear, showing the previous logins to the system. The 'ENTER' button will redirect the user to Main Page.

Date and time are shown since the data are stored in descending time-based sequence. The Login Log consists of username, date and time of login. Thus, the person who access the system has the responsibility upon the system while he is logged in.

#### 4.1.2. Main Page

The screenshot shows a web interface titled "BUILDING INFORMATION MANAGEMENT FOR UTP ACADEMIC COMPLEX". Below the title, it displays the date and time: "Monday, 17/08/2004, 9.00 a.m." and a welcome message: "Welcome, User." A prompt asks the user to "Please select the building for maintenance today." On the left side, there is a "LOGOUT" button. On the right side, there is a large rectangular area labeled "UTP Academic Complex Plan".

*Figure 4.3 Main Page*

In Main Page (kindly refer to Figure 4.3), the user is required to specify the building to access its information. The selection will be made by clicking on the building that the user wishes to access. Later, the user will be directed to Level Selection Page.

#### 4.1.3. Level Selection Page

In Level Selection Page (kindly refer to Figure 6), the basic information about the selected building will be displayed. The user can view the details about the building by clicking on the "VIEW DETAILS" button.

The user is required to choose the specific level to view the maintenance data. By clicking on the "SELECT" button, the user will be directed to the next page.

Other buttons are "MAIN" and "LOGOUT", which respectively enable the user to return to the Main Page and logout from the system.

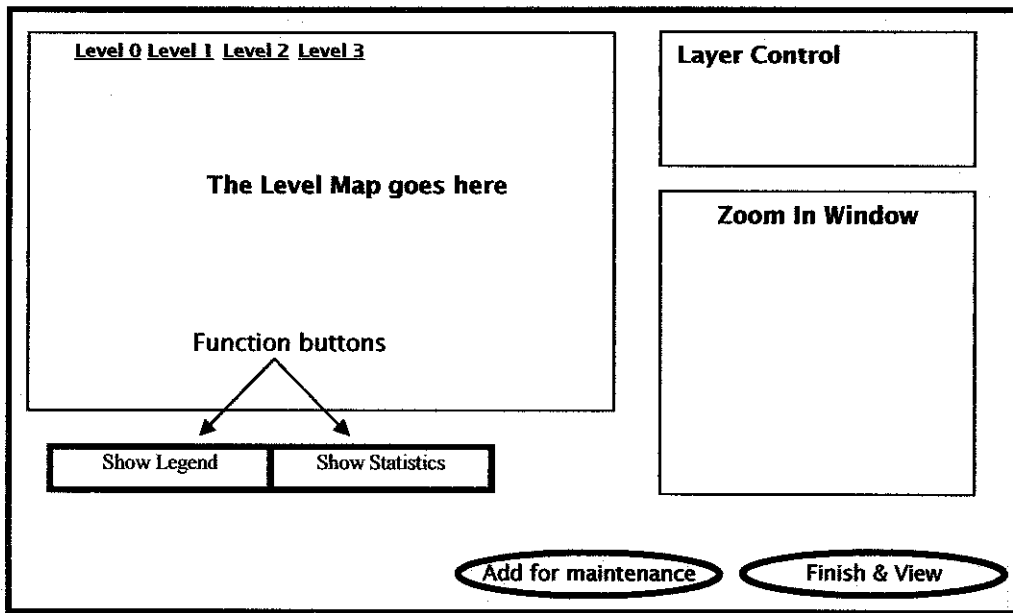
BUILDING INFORMATION MANAGEMENT FOR UTP ACADEMIC COMPLEX					
Monday, 17/05/2004, 9.00 a.m.					
<table border="1"><tr><td>MAIN</td></tr><tr><td>LOGOUT</td></tr></table>		MAIN	LOGOUT		
MAIN					
LOGOUT					
You have selected:					
Building:	<table border="1"><tr><td>13</td></tr></table>	13			
13					
Department:	<table border="1"><tr><td>Civil Engineering</td></tr></table>	Civil Engineering			
Civil Engineering					
<table border="1"><tr><td>VIEW DETAILS</td></tr></table>		VIEW DETAILS			
VIEW DETAILS					
Please select the specific level to access the database.					
<table border="1"><tr><td>Level 0</td><td>Level 1</td><td>Level 2</td><td>Level 3</td></tr></table>		Level 0	Level 1	Level 2	Level 3
Level 0	Level 1	Level 2	Level 3		
<table border="1"><tr><td>SELECT</td></tr></table>		SELECT			
SELECT					

**Figure 4.4 Level Selection Page**

#### 4.1.4. Building Information Page

Building Information Page is the “heart” of the system. The user is allowed to access the database from this page to assist the decision making process (i.e. maintenance works to be carried out).

The level floor map will be displayed in this page (kindly refer to Figure 4.5). The user will select the type of maintenance to be shown on the map by marking the layers that they want to view. List of layers available are provided in the Layer Control box. The maintenance types are put in different layers, named Lighting, Fire Alarm System and Room Information.



*Figure 4.5 Building Information Page*

The function icons will assist the user in exploring the map. These functions are adapted from MapInfo application. The functions to be added are listed below:

- Show Legend – show the legend for all symbols on the map.
- Show Statistics – show the statistics for all items in the building.

In this page, the user will be able to select the item on the specific floor and view the information of each item. Details to be included for an item are as followed:

- Item
- Item code
- Location code
- Status
- Note
- Last change or service
- Next change or service
- Cost



- Supplier
- Contractor

By clicking on the “ADD FOR MAINTENANCE” button, the item will be added to the maintenance list. When clicking the “FINISH & VIEW” button in the Level Selection page, the user will be directed to the Finalization of Maintenance Page.

#### 4.1.5. Finalization of Maintenance Page

Monday, 17/05/2004, 9.00 am

List of items to be maintained:

Item:	Location Code:	Expected Completion:	Next Maintenance:	Cost:

Total Cost:

Confirm the list?

Add more items

Cancel all works

Finish and Print

*Figure 4.6 Finalization of Maintenance Page*

In Finalization of Maintenance Page as shown in Figure 4.6, the user will enable to check the maintenance list of items selected earlier. The cost of maintenance for each item will be shown, which will sum up to determine the total cost. The maintenance works can be added or removed from the list.

If the user wants to add other maintenance works, the ‘ADD MORE ITEMS’ button will redirect the user to the Level Selection page. ‘CANCEL ALL’ button will erase all the

maintenance works. To save the list of maintenance works, the user may click on the 'FINISH AND SAVE' button. The list of maintenance works to be done in the month will be saved.

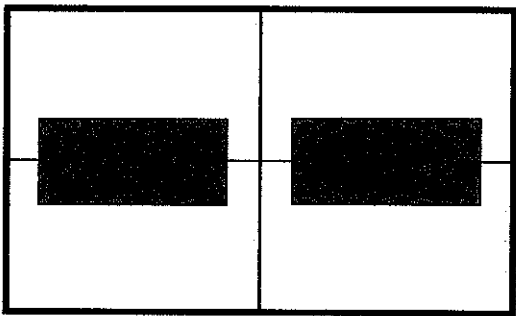
In the same time, the maintenance database for the system will be automatically updated.

**4.2. Graphical User Interface (GUI) Considerations**

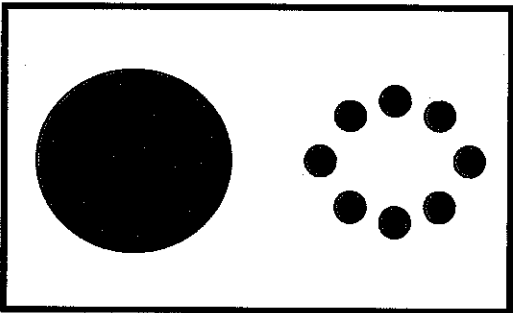
Three elements have been considered by the author in designing the GUI for the system. They are balance, unity and movement.

*4.2.1. Balance*

The user interface is designed to be a well-balanced interface. There are two types of balance; symmetrical and asymmetrical, as shown in Figure 4.7 and 4.8.



*Figure 4.7 Symmetrical Balance*



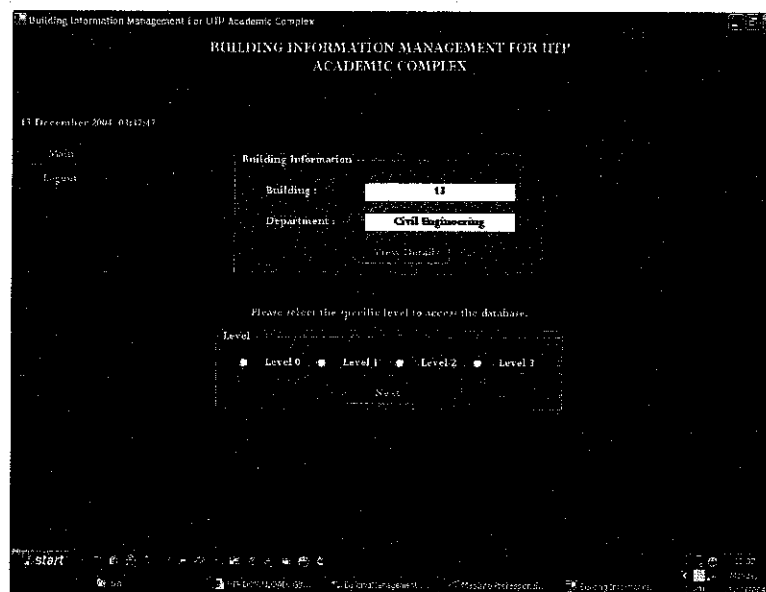
*Figure 4.8 Asymmetrical Balance*

#### 4.2.2. Unity

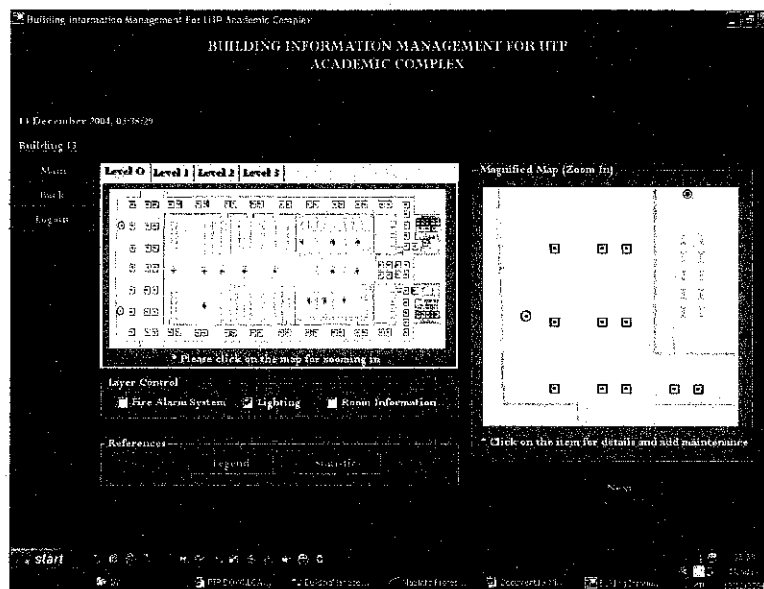
Interface unity refers to the design consistency of intrapage and interpage unity. For intrapage unity, take buttons as example; same color and font are assigned to them.

On the other hand, for interpage unity, take button locations for example; they are located at the same place on every page. For example, “LOGOUT” button is always located at the top left side in the window.

This interface unity can be identified as shown in Figure 4.9 and 4.10.



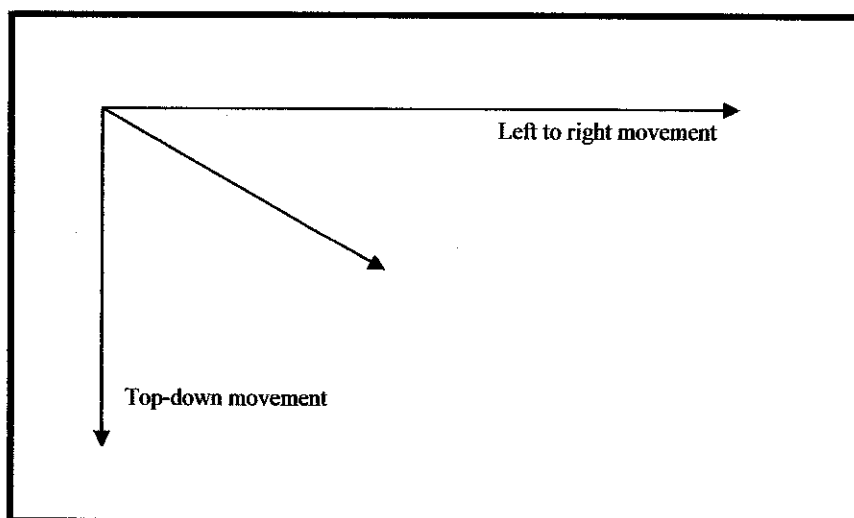
*Figure 4.9 User Interface for Level Selection Page*



**Figure 4.10** User Interface for Building Information Page

#### 4.2.3. Movement

The movement of information flow is designed top-down, from left to right. In such way, transportability of knowledge will be preserved.



**Figure 4.11** Movement of Information Flow within a Page

4.3. Databases in BIMUTP

Database is the heart of the system. The manipulation of the data is designed in such way that they are easily accessed and understood. The database will automatically update itself when the users give the instruction. Logging is also done for the database to identify every change in the database.

The database for BIMUTP consists of spatial and attribute data as shown in Figure 4.6.

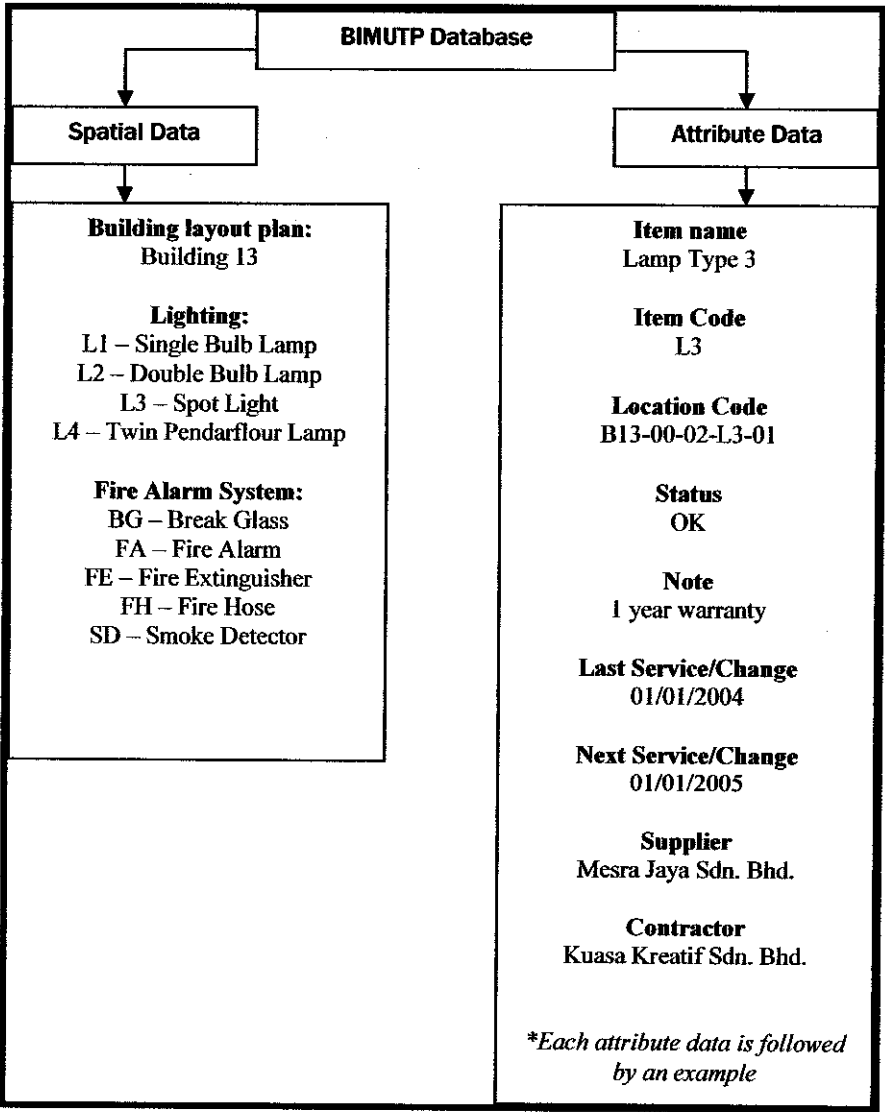


Figure 4.12 Elements in BIMUTP Database

#### **4.4. User Access**

The limitation of access to the system is created to secure the database within. Only authorized people can access the system by providing password that matches the username.

Login log is provided to enable the system administrator to track the users who have logged in the system. By having this log, the users can also view the last time when the previous users have logged in.

#### **4.5. Error Handling Feature**

In order to assist the users in using the program, a message box will appear when there is an improper usage of the system. This message box will remind the users if they miss any necessary action or perform an action restricted by the system.

Error handling feature is very important to guide the users to follow the flow of the system.

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1. Conclusions**

At the end of the project, the author has fulfilled the objectives set earlier in the planning stage. The project requires the author to master the IT knowledge in order to implement the system design. This process has given the opportunity to the author to learn deeply about GIS.

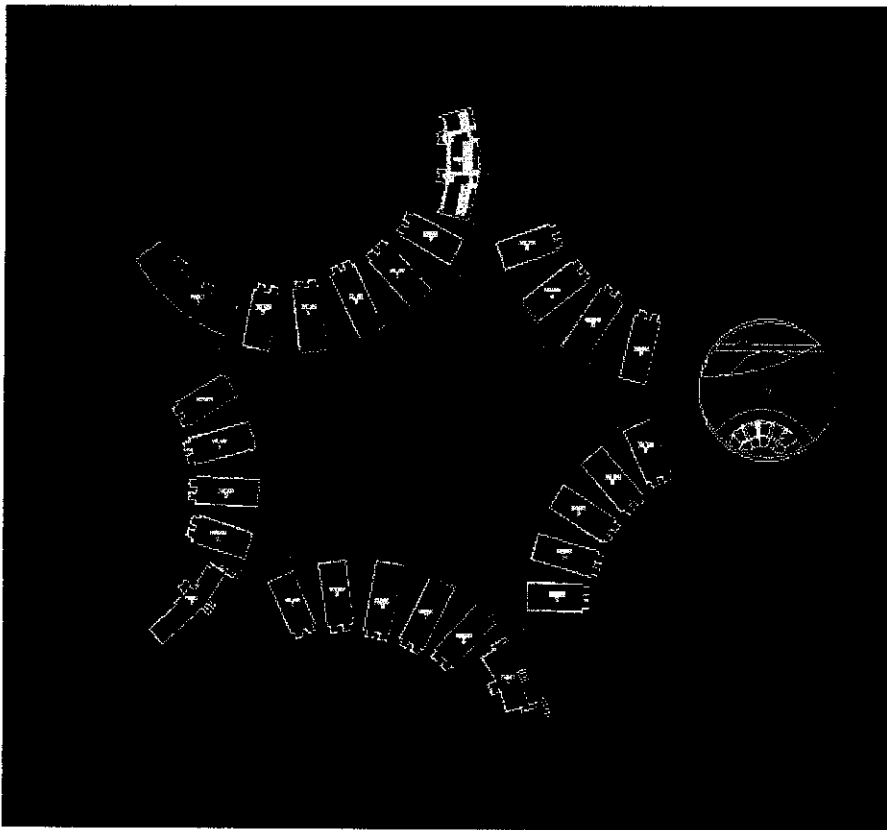
Interdisciplinary cooperation is very important. In real life, in order to implement the GIS database system, civil engineers must cooperate with software engineers and user interface designers to come up with a system that can fulfill the engineering requirements.

The author also realizes that GIS is a widely used method for many purposes such as management, business planning, marketing territories, demographic characteristics and strategic allocation. Thus, by doing this project, the author is implementing the possibility for a new approach in building maintenance management instead of the traditional approach.

As the final conclusion, building maintenance management using GIS approach is better than using the traditional approach in terms of data accessibility, storage convenience, time duration for maintenance planning and accuracy of decision making process.

## 5.2. Scope Expansion

Since the time frame is limited, the scope has been narrowed to Building 13; covering two types of items; lighting and fire alarm system. The system has been designed in such way that its database can be easily expanded. In the future, it is recommended that the scope to be widened to cover the whole UTP Academic Complex as shown in Figure 5.1. The types of items covered should also be expanded; i.e. the power system, air-conditioning and ventilation, restrooms, lecture theatre, and also the landscape.



*Figure 5.1 UTP Academic Complex*



### **5.3. Revision of Data Manipulation Features**

The author also would like to propose the revision of data manipulation features presented in the system. Current features available are user login, login log, statistics, summation of total cost and maintenance log.

The revision of these features must be done in order to accommodate the actual needs of maintenance engineers and managers. The needs may differ from one building to another.

### **5.4. Usage of ArcView Application**

For this project, the author chooses to use another database format instead of MapInfo format (.tab) in order to enable the data to be manipulated easily by VB. The author would encourage the usage of ArcView application for the database integration.

Until this report was written, the author is still unable to acquire the coding for the integration. In order to create a user-friendly application, the author must determine the way to integrate the MapInfo with another application. VB is well-known as the software to create a stand-alone program. Thus, the usage of VB will enhance the performance of the final product in term of appearance and functionality. The best way to integrate the database into the system is by converting it into another format (.shp) that can be opened in ArcView application. VB possesses the capability to manipulate the data from ArcView using an add-on feature called MapObjects. However, the computer facility owned by the author rejected the installation of ArcView application. For future expansion, the usage of ArcView is mostly encouraged by the author.

## REFERENCES

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- [11] Mel Shear (1983), *Handbook of Building Maintenance Management*, Prentice Hall PTR.

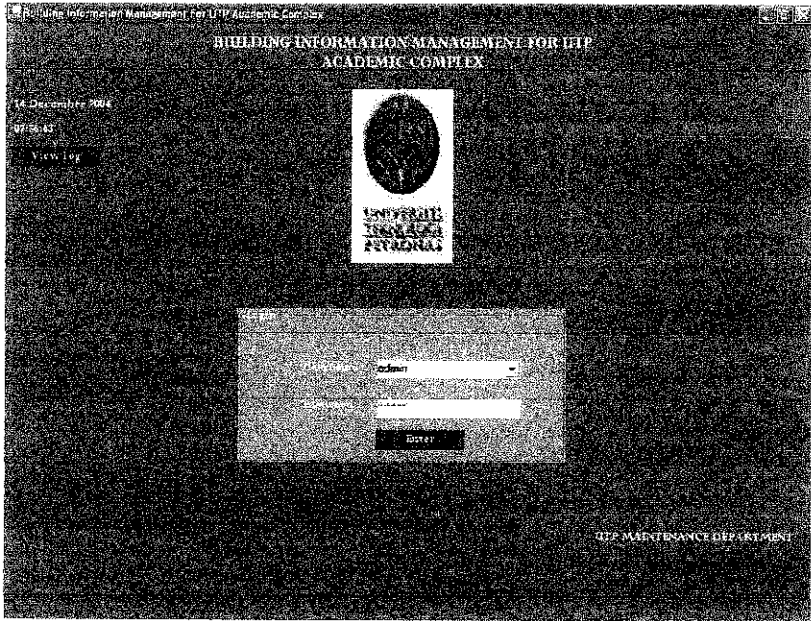
## **APPENDICES**

## APPENDIX I: PROJECT GANTT CHART

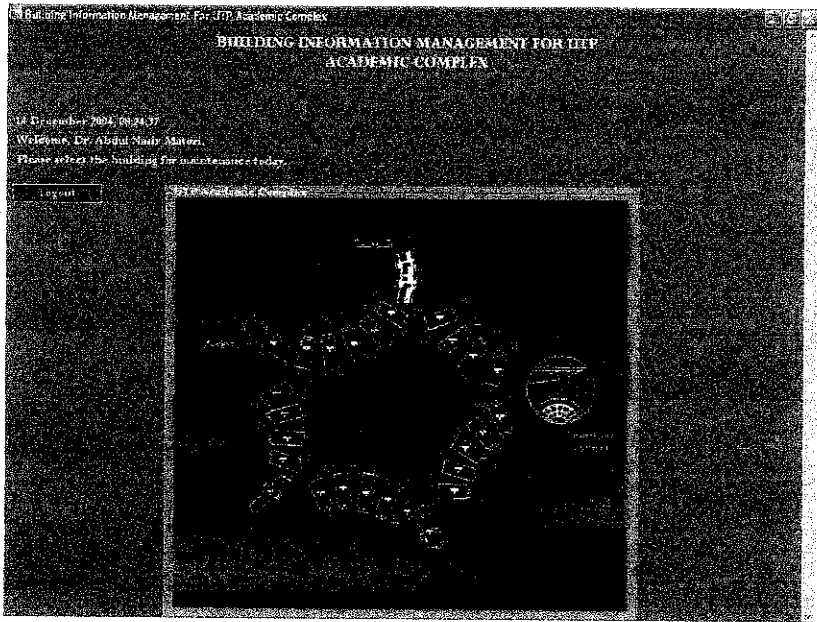
[illegible]

APPENDIX II: SCREENSHOTS

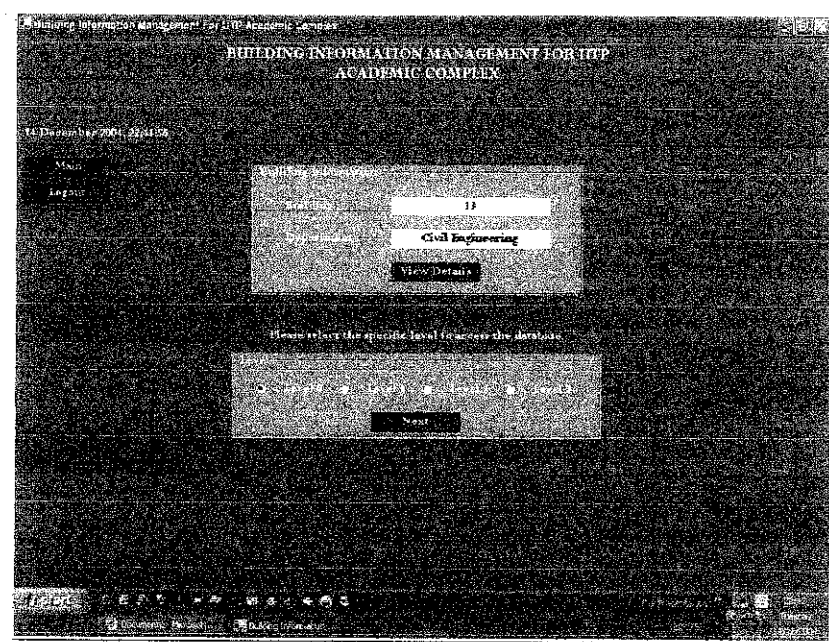
gin Page



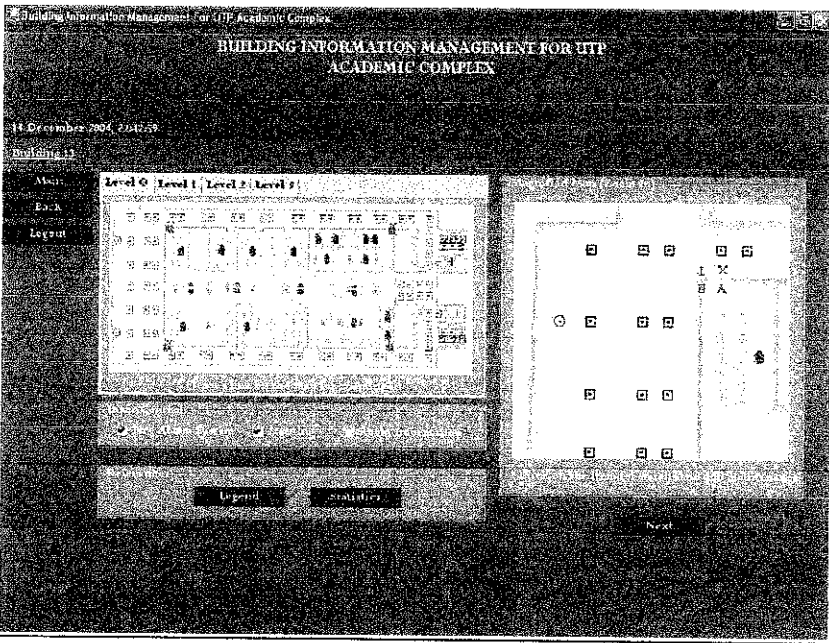
in Page



vel Selection Page



ilding Information Page







## APPENDIX III: SOURCE CODE

```
Public Class Form1
    Inherits System.Windows.Forms.Form

    'This program is created for Building Maintenance System.
    'All interfaces and codes are created originally

    'Structure for Login Logs
    '-----

    Structure LoginLog
        Public strUsername As String
        Public strDateLog As String
        Public strTimeLog As String
    End Structure

    'Declaration of arrays and structures
    '-----

    Dim udtLoginLog(1000) As LoginLog
    Dim intNumRecord As Integer
    Dim intIndex As Integer
    Dim EnableLog As Boolean

    'Clear the temp added item
    '-----

    Public Sub ClearAddedItem()
        FileOpen(1, "AddedItem.txt", OpenMode.Output)
        WriteLine(1, 0, 0)
        FileClose(1)
    End Sub

    'Save login log function
    '-----

    Public Sub SaveLog()
        udtLoginLog(intNumRecord).strUsername = cbxUsername.Text
        udtLoginLog(intNumRecord).strDateLog = Format(Today, "Long Date")
        udtLoginLog(intNumRecord).strTimeLog = Format(TimeOfDay, "Medium Time")

        FileOpen(1, "LoginLog.txt", OpenMode.Output)
        For intIndex = 0 To intNumRecord
            WriteLine(1, udtLoginLog(intIndex).strUsername, _
                udtLoginLog(intIndex).strDateLog, _
                udtLoginLog(intIndex).strTimeLog)
        Next
        FileClose(1)
    End Sub

    'Verified username and password for security purpose
    '-----

    Private Sub btnEnter_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnEnter.Click
        If cbxUsername.Text = "admin" And txtPassword.Text = "admin" Then
            MsgBox("You have successfully logged in.", MsgBoxStyle.OKOnly, "Login Success")
            SaveLog()
            Me.Hide()
            Dim frmTest As Form2
            frmTest = New Form2()
            frmTest.Show()
        ElseIf cbxUsername.Text = "manager1" And txtPassword.Text = "manager1" Then
            MsgBox("You have successfully logged in.", MsgBoxStyle.OKOnly, "Login Success")
            SaveLog()
        End If
    End Sub
End Class
```

```

    Me.Hide()
    Dim frmTest As Form2
    frmTest = New Form2()
    frmTest.Show()
ElseIf cbxUsername.Text = "manager2" And txtPassword.Text = "manager2" Then
    MsgBox("You have successfully logged in.", MsgBoxStyle.OKOnly, "Login Success")
    SaveLog()
    Me.Hide()
    Dim frmTest As Form2
    frmTest = New Form2()
    frmTest.Show()
Else
    MsgBox("Username and Password do not match! Please try again.", MsgBoxStyle.Critical, "Login Failure")
    txtPassword.Text = ""
    txtPassword.Focus()
    Exit Sub
End If
End Sub

```

'Initialize Form1 and get date and time of the day

```

Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    lblDate.Text = Format(Today, "Long Date")
    lblTime.Text = Format(TimeOfDay, "Medium Time")

    intNumRecord = 0
    FileOpen(1, "LoginLog.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtLoginLog(intNumRecord).strUsername)
        Input(1, udtLoginLog(intNumRecord).strDateLog)
        Input(1, udtLoginLog(intNumRecord).strTimeLog)
        intNumRecord += 1
    Loop
    FileClose(1)
End Sub

```

'Form1 closing confirmation

```

Private Sub Form1_Closing(ByVal sender As System.Object, ByVal e As System.ComponentModel.CancelEventArgs) Handles MyBase.Closing

```

```

    Dim intResponse As Integer
    intResponse = MsgBox("Do you really want to exit this application?", 276, "Exit?")
    If intResponse = 6 Then
        ClearAddedItem()
        End
    Else
        e.Cancel = True
    End If
End Sub

```

'Trigger pop out window for view login log

```

Private Sub btnViewLog_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnViewLog.Click
    Dim frmLoginLog As Form1_2
    frmLoginLog = New Form1_2()
    frmLoginLog.Show()
End Sub
End Class

```

```

Public Class Form1_2
    Inherits System.Windows.Forms.Form

```

'Structure for login logs

```

Structure LoginLog
    Public strUsername As String
    Public strDateLog As String
    Public strTimeLog As String
End Structure

```

```

'Declaring arrays and variables
'-----

```

```

Dim udtLoginLog(1000) As LoginLog
Dim intNumRecord As Integer
Dim intNumRecord2 As Integer

```

```

'Initialization of Form1.2 and displaying login logs
'-----

```

```

Private Sub Form1_2_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    intNumRecord = 0

```

```

    FileOpen(1, "LoginLog.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtLoginLog(intNumRecord).strUsername)
        Input(1, udtLoginLog(intNumRecord).strDateLog)
        Input(1, udtLoginLog(intNumRecord).strTimeLog)
        intNumRecord += 1
    Loop
    FileClose(1)

```

```

    intNumRecord2 = intNumRecord - 1

```

```

    Do While intNumRecord2 >= 0
        txtLogs.Text = txtLogs.Text & udtLoginLog(intNumRecord2).strUsername & ", " & _
            udtLoginLog(intNumRecord2).strDateLog & ", " & udtLoginLog(intNumRecord2).strTimeLog & vbCrLf
        intNumRecord2 -= 1
    Loop

```

```

End Sub

```

```

End Class

```

```

Public Class Form2
    Inherits System.Windows.Forms.Form

```

```

'Structure for login logs
'-----

```

```

Structure LoginLog
    Public strUsername As String
    Public strDateLog As String
    Public strTimeLog As String
End Structure

```

```

'Declaring arrays and variables
'-----

```

```

Dim udtLoginLog(1000) As LoginLog
Dim intNumRecord As Integer
Dim BuildingSelected As String

```

```

'Clear the temp added item
'-----

```

```

Public Sub ClearAddedItem()
    FileOpen(1, "AddedItem.txt", OpenMode.Output)
    WriteLine(1, 0, 0)
    FileClose(1)
End Sub

```

```

'Save building selected as a reference for next forms
'-----

```

```
Public Sub SaveBuilding()
    FileOpen(1, "Building.txt", OpenMode.Output)
    WriteLine(1, BuildingSelected)
    FileClose(1)
End Sub
```

'Loading Form3 function

```
Public Sub LoadForm3()
    Me.Hide()
    Dim frmTest2 As Form3
    frmTest2 = New Form3()
    frmTest2.Show()
End Sub
```

'Pop up msg function to notify user of unavailable database

```
Public Sub NotAvailable()
    MsgBox("No database available", MsgBoxStyle.OKOnly + MsgBoxStyle.Information)
End Sub
```

'Form2 closing confirmation and clear temporary added item

```
Private Sub Form2_Closing(ByVal sender As System.Object, ByVal e As _
System.ComponentModel.CancelEventArgs) Handles MyBase.Closing

    Dim intResponse As Integer
    intResponse = MsgBox("Do you really want to exit this application?", 276, "Exit?")
    If intResponse = 6 Then
        ClearAddedItem()
    End
    Else
        e.Cancel = True
    End If
End Sub
```

'Initialization of Form2 and personalization of user

```
Private Sub Form2_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    lblDateTime.Text = Format(Today, "Long Date") & ", " & Format(TimeOfDay, "Medium Time")

    intNumRecord = 0
    FileOpen(1, "LoginLog.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtLoginLog(intNumRecord).strUsername)
        Input(1, udtLoginLog(intNumRecord).strDateLog)
        Input(1, udtLoginLog(intNumRecord).strTimeLog)
        intNumRecord += 1
    Loop
    FileClose(1)

    Dim intNumRecord2 As Integer
    intNumRecord2 = intNumRecord - 1

    If udtLoginLog(intNumRecord2).strUsername = "admin" Then
        lblWelcome.Text = "Welcome, Dr. Abdul Nasir Matori."
    ElseIf udtLoginLog(intNumRecord2).strUsername = "manager1" Then
        lblWelcome.Text = "Welcome, Mohd Azlan Norzan."
    ElseIf udtLoginLog(intNumRecord2).strUsername = "manager2" Then
        lblWelcome.Text = "Welcome, Azman Adnan."
    End If
End Sub
```

'Logout confirmation

```

Private Sub btnLogout_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnLogout.Click
    Dim intResponse As Integer
    intResponse = MsgBox("Do you really want to logout?", 276, "Logout?")
    If intResponse = 6 Then
        Me.Hide()
        Dim frmTest As Form1
        frmTest = New Form1()
        frmTest.Show()
    Else
        Exit Sub
    End If
End Sub

```

'Handling building selected by user

```

Private Sub lbl13_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl13.Click
    BuildingSelected = "13"
    SaveBuilding()
    LoadForm3()
End Sub

```

```

Private Sub lbl14_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl14.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl15_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl15.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl16_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl16.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl17_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl17.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl18_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl18.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl19_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl19.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl20_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl20.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl21_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl21.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl22_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl22.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl23_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl23.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl1.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl2.Click
    NotAvailable()
End Sub

```

```

Private Sub lbl3_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl3.Click
    NotAvailable()
End Sub

Private Sub lbl4_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl4.Click
    NotAvailable()
End Sub

Private Sub lbl5_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lbl5.Click
    NotAvailable()
End Sub

Private Sub lblChancellor_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lblChancellor.Click
    NotAvailable()
End Sub

Private Sub lblPocketC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lblPocketC.Click
    NotAvailable()
End Sub

Private Sub lblPocketD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles lblPocketD.Click
    NotAvailable()
End Sub
End Class

```

```

Public Class Form3
    Inherits System.Windows.Forms.Form

    'Declaration of variables
    '-----

    Dim BuildingSelected As String
    Dim LevelSelected As String

    'Clear the temp added item
    '-----

    Public Sub ClearAddedItem()
        FileOpen(1, "AddedItem.txt", OpenMode.Output)
        WriteLine(1, 0, 0)
        FileClose(1)
    End Sub

    'Save selected level as a reference for next forms
    '-----

    Public Sub SaveLevel()
        FileOpen(1, "Level.txt", OpenMode.Output)
        WriteLine(1, LevelSelected)
        FileClose(1)
    End Sub

    'Initialization of Form3 and defining the department
    '-----

    Private Sub Form3_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
        lblDateTime.Text = Format(Today, "Long Date") & ", " & Format(TimeOfDay, "Medium Time")

        FileOpen(1, "Building.txt", OpenMode.Input)
        Input(1, BuildingSelected)
        FileClose(1)

        If BuildingSelected = "13" Then
            lblBuilding.Text = "13"
            lblDepartment.Text = "Civil Engineering"
        End If
    End Sub

    'Form3 closing confirmation and clear added item

```

```
'-----  
Private Sub Form3_Closing(ByVal sender As System.Object, ByVal e As _  
System.ComponentModel.CancelEventArgs) Handles MyBase.Closing
```

```
    Dim intResponse As Integer  
    intResponse = MsgBox("Do you really want to exit this application?", 276, "Exit?")  
    If intResponse = 6 Then  
        ClearAddedItem()  
    End  
    Else  
        e.Cancel = True  
    End If  
End Sub
```

```
'Load Form2 as main form  
'-----
```

```
Private Sub btnMain_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnMain.Click  
    Me.Hide()  
    Dim frmTest As Form2  
    frmTest = New Form2()  
    frmTest.Show()  
End Sub
```

```
'Logout confirmation  
'-----
```

```
Private Sub btnLogout_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnLogout.Click  
    Dim intResponse As Integer  
    intResponse = MsgBox("Do you really want to logout?", 276, "Logout?")  
    If intResponse = 6 Then  
        Me.Hide()  
        Dim frmTest As Form1  
        frmTest = New Form1()  
        frmTest.Show()  
    Else  
        Exit Sub  
    End If  
End Sub
```

```
'Go to the Form4 and error prevention codes  
'-----
```

```
Private Sub btnNext_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnNext.Click  
    If rbtLevel0.Checked = False And rbtLevel1.Checked = False And rbtLevel2.Checked = False And rbtLevel3.Checked = False  
        Then  
            MsgBox("Please choose specific level before continue!", MsgBoxStyle.OKOnly + MsgBoxStyle.Critical)  
        Else  
            If rbtLevel0.Checked = True Then  
                LevelSelected = "Level 0"  
                SaveLevel()  
            ElseIf rbtLevel1.Checked = True Then  
                LevelSelected = "Level 1"  
                SaveLevel()  
            ElseIf rbtLevel2.Checked = True Then  
                LevelSelected = "Level 2"  
                SaveLevel()  
            ElseIf rbtLevel3.Checked = True Then  
                LevelSelected = "Level 3"  
                SaveLevel()  
            End If  
  
            Me.Hide()  
            Dim frmTest3 As Form4  
            frmTest3 = New Form4()  
            frmTest3.Show()  
        End If  
End Sub
```

'Pop out window to show details of particular building

```
'-----  
Private Sub btnViewDetail_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnViewDetail.Click  
    Dim frmBuildingDetails As Form3_2  
    frmBuildingDetails = New Form3_2()  
    frmBuildingDetails.Show()  
End Sub  
End Class
```

```
Public Class Form3_2  
    Inherits System.Windows.Forms.Form
```

```
    Structure Lab  
        Dim LabName As String  
    End Structure
```

```
    Structure Room  
        Dim RoomName As String  
    End Structure
```

```
    Dim BuildingSelected As String  
    Dim intNumRecord As Integer  
    Dim intNumRecord2 As Integer  
    Dim intIndex As Integer  
    Dim udtLab(50) As Lab  
    Dim udtRoom(50) As Room
```

```
Private Sub Form3_2_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load  
    FileOpen(1, "Building.txt", OpenMode.Input)  
    Input(1, BuildingSelected)  
    FileClose(1)  
  
    If BuildingSelected = "13" Then  
        intNumRecord = 0  
        FileOpen(1, "Building13Room.txt", OpenMode.Input)  
        Do Until EOF(1)  
            Input(1, udtRoom(intNumRecord).RoomName)  
            intNumRecord += 1  
        Loop  
        FileClose(1)  
  
        intNumRecord2 = 0  
        FileOpen(1, "Building13Lab.txt", OpenMode.Input)  
        Do Until EOF(1)  
            Input(1, udtLab(intNumRecord2).LabName)  
            intNumRecord2 += 1  
        Loop  
        FileClose(1)  
  
        For intIndex = 0 To intNumRecord  
            txtRooms.Text = txtRooms.Text & udtRoom(intIndex).RoomName & vbCrLf & vbCrLf  
        Next  
  
        For intIndex = 0 To intNumRecord2  
            txtLabs.Text = txtLabs.Text & udtLab(intIndex).LabName & vbCrLf & vbCrLf  
        Next  
    End If  
End Sub  
End Class
```

```
Public Class Form4  
    Inherits System.Windows.Forms.Form  
  
    'Structure for normal building picture directory  
    '-----
```



Structure **BuildingPicture**

Dim **strA** As String  
Dim **strB** As String  
Dim **strC** As String  
Dim **strD** As String  
Dim **strE** As String  
Dim **strF** As String  
Dim **strG** As String  
Dim **strH** As String

End Structure

'Structure for building picture with FAS directory

Structure **BuildingPictureFAS**

Dim **strA** As String  
Dim **strB** As String  
Dim **strC** As String  
Dim **strD** As String  
Dim **strE** As String  
Dim **strF** As String  
Dim **strG** As String  
Dim **strH** As String

End Structure

'Structure for building picture with lighting directory

Structure **BuildingPictureLighting**

Dim **strA** As String  
Dim **strB** As String  
Dim **strC** As String  
Dim **strD** As String  
Dim **strE** As String  
Dim **strF** As String  
Dim **strG** As String  
Dim **strH** As String

End Structure

'Structure for building with both lighting and FAS directory

Structure **BuildingPictureBoth**

Dim **strA** As String  
Dim **strB** As String  
Dim **strC** As String  
Dim **strD** As String  
Dim **strE** As String  
Dim **strF** As String  
Dim **strG** As String  
Dim **strH** As String

End Structure

'Structure for lighting database for Level 0

Structure **LightingDbase0**

Dim **Item** As String  
Dim **Code** As String  
Dim **Location** As String  
Dim **Status** As String  
Dim **Note** As String  
Dim **DayLast** As Integer  
Dim **MonthLast** As Integer  
Dim **YearLast** As Integer  
Dim **DayNext** As Integer  
Dim **MonthNext** As Integer  
Dim **YearNext** As Integer  
Dim **Cost** As Double  
Dim **Supplier** As String

```
    Dim Contractor As String
End Structure
```

```
'Structure for FAS database for Level 0
```

```
Structure FASDbase0
    Dim Item As String
    Dim Code As String
    Dim Location As String
    Dim Status As String
    Dim Note As String
    Dim DayLast As Integer
    Dim MonthLast As Integer
    Dim YearLast As Integer
    Dim DayNext As Integer
    Dim MonthNext As Integer
    Dim YearNext As Integer
    Dim Cost As Double
    Dim Operator As String
End Structure
```

```
'Declaration of variables, arrays and form initialization
```

```
Dim udtBuildingPicture(5) As BuildingPicture
Dim udtBuildingPictureFAS(5) As BuildingPictureFAS
Dim udtBuildingPictureLighting(5) As BuildingPictureLighting
Dim udtBuildingPictureBoth(5) As BuildingPictureBoth
Dim udtLightingDbase0(500) As LightingDbase0
Dim udtFASDbase0(40) As FASDbase0
Dim intNumRecord As Integer
Dim intNumRecord2 As Integer
Dim intNumRecord3 As Integer
Dim intNumRecord4 As Integer
Dim Reference As Integer
Dim Item As String
Dim Counter As Integer
Dim Counter2 As Integer
Dim BuildingSelected As String
Dim LevelSelected As String
Dim ValidateInstance As Boolean
Dim ValidateInstance2 As Boolean
Dim SubLevel As String
Dim frmRooms As Form4_2
Dim frmItemDetails As Form4_4
```

```
'Clear the temp added item
```

```
Public Sub ClearAddedItem()
    FileOpen(1, "AddedItem.txt", OpenMode.Output)
    WriteLine(1, 0, 0)
    FileClose(1)
End Sub
```

```
'Saving particular chosen lighting id to invoke database page
```

```
Public Sub SaveTemp()
    FileOpen(1, "MaintenanceTemp.txt", OpenMode.Output)
    WriteLine(1, Reference)
    FileClose(1)
End Sub
```

```
'Saving whether item is FAS or Lighting type to invoke database page
```

```
Public Sub SaveTemp3()
    FileOpen(1, "MaintenanceTemp3.txt", OpenMode.Output)
```

```

WriteLine(1, Item)
FileClose(1)
End Sub

```

'Handling image that will be appeared on the picture box wheter  
'with lighting, FAS, both or none

---

```

Public Sub CheckBox()
    If BuildingSelected = "13" Then
        If chkFireAlarm.Checked = True And chkLighting.Checked = False Then
            pic0A.Image = Image.FromFile(udtBuildingPictureFAS(0).strA)
            pic0B.Image = Image.FromFile(udtBuildingPictureFAS(0).strB)
            pic0C.Image = Image.FromFile(udtBuildingPictureFAS(0).strC)
            pic0D.Image = Image.FromFile(udtBuildingPictureFAS(0).strD)
            pic0E.Image = Image.FromFile(udtBuildingPictureFAS(0).strE)
            pic0F.Image = Image.FromFile(udtBuildingPictureFAS(0).strF)
            pic0G.Image = Image.FromFile(udtBuildingPictureFAS(0).strG)
            pic0H.Image = Image.FromFile(udtBuildingPictureFAS(0).strH)
        ElseIf chkFireAlarm.Checked = False And chkLighting.Checked = True Then
            pic0A.Image = Image.FromFile(udtBuildingPictureLighting(0).strA)
            pic0B.Image = Image.FromFile(udtBuildingPictureLighting(0).strB)
            pic0C.Image = Image.FromFile(udtBuildingPictureLighting(0).strC)
            pic0D.Image = Image.FromFile(udtBuildingPictureLighting(0).strD)
            pic0E.Image = Image.FromFile(udtBuildingPictureLighting(0).strE)
            pic0F.Image = Image.FromFile(udtBuildingPictureLighting(0).strF)
            pic0G.Image = Image.FromFile(udtBuildingPictureLighting(0).strG)
            pic0H.Image = Image.FromFile(udtBuildingPictureLighting(0).strH)
        ElseIf chkFireAlarm.Checked = True And chkLighting.Checked = True Then
            pic0A.Image = Image.FromFile(udtBuildingPictureBoth(0).strA)
            pic0B.Image = Image.FromFile(udtBuildingPictureBoth(0).strB)
            pic0C.Image = Image.FromFile(udtBuildingPictureBoth(0).strC)
            pic0D.Image = Image.FromFile(udtBuildingPictureBoth(0).strD)
            pic0E.Image = Image.FromFile(udtBuildingPictureBoth(0).strE)
            pic0F.Image = Image.FromFile(udtBuildingPictureBoth(0).strF)
            pic0G.Image = Image.FromFile(udtBuildingPictureBoth(0).strG)
            pic0H.Image = Image.FromFile(udtBuildingPictureBoth(0).strH)
        Else
            pic0A.Image = Image.FromFile(udtBuildingPicture(0).strA)
            pic0B.Image = Image.FromFile(udtBuildingPicture(0).strB)
            pic0C.Image = Image.FromFile(udtBuildingPicture(0).strC)
            pic0D.Image = Image.FromFile(udtBuildingPicture(0).strD)
            pic0E.Image = Image.FromFile(udtBuildingPicture(0).strE)
            pic0F.Image = Image.FromFile(udtBuildingPicture(0).strF)
            pic0G.Image = Image.FromFile(udtBuildingPicture(0).strG)
            pic0H.Image = Image.FromFile(udtBuildingPicture(0).strH)
        End If
    End If
End Sub

```

'Function for whether to initiate, close and re-open database form

---

```

Public Sub CheckInfo3()

    If ValidateInstance2 = True Then
        frmItemDetails = New Form4_4()
        frmItemDetails.Show()
    ElseIf ValidateInstance2 = False Then
        ValidateInstance2 = True
        frmItemDetails.Close()
        frmItemDetails = New Form4_4()
        CheckInfo3()
    End If
End Sub

```

'Function for handling changes in Room Information form

---

```

Public Sub CheckInfo()

```

```

If BuildingSelected = "13" Then

    FileOpen(1, "Level.txt", OpenMode.Output)
    WriteLine(1, "Level " & tabLevel.SelectedIndex)
    FileClose(1)

    If ValidateInstance = True Then
        frmRooms = New Form4_2()
    End If

    If chkRoomInfo.Checked = True Then
        lbl1.Visible = True
        lbl2.Visible = True
        lbl3.Visible = True
        lbl4.Visible = True
        lbl5.Visible = True
        lbl6.Visible = True
        lbl7.Visible = True
        lbl8.Visible = True
        lbl9.Visible = True
        lbl10.Visible = True
        lbl11.Visible = True
        lbl12.Visible = True
        lbl13.Visible = True
        lbl14.Visible = True
        lbl15.Visible = True
        lbl16.Visible = True
        lbl17.Visible = True
        lbl18.Visible = True
        lbl19.Visible = True
        frmRooms.Show()
        ValidateInstance = False
    ElseIf chkRoomInfo.Checked = False Then
        lbl1.Visible = False
        lbl2.Visible = False
        lbl3.Visible = False
        lbl4.Visible = False
        lbl5.Visible = False
        lbl6.Visible = False
        lbl7.Visible = False
        lbl8.Visible = False
        lbl9.Visible = False
        lbl10.Visible = False
        lbl11.Visible = False
        lbl12.Visible = False
        lbl13.Visible = False
        lbl14.Visible = False
        lbl15.Visible = False
        lbl16.Visible = False
        lbl17.Visible = False
        lbl18.Visible = False
        lbl19.Visible = False
        frmRooms.Close()
        ValidateInstance = True
    End If
End If
End Sub

```

Function for displaying only particular items on the zoom window

---

```

Public Sub CheckInfo2()
    If LevelSelected = "Level 0" Then
        If SubLevel = "A" Then
            If chkFireAlarm.Checked = True Then
                picBGA.Visible = True
                picFEA.Visible = True
                picFHA.Visible = True
                picFAA.Visible = True
                picSDA.Visible = True
            End If
        End If
    End If
End Sub

```

End If

If chkLighting.Checked = True Then

picL1A.Visible = True  
picL1B.Visible = True  
picL1C.Visible = True  
picL1D.Visible = True  
picL1E.Visible = True  
picL1F.Visible = True  
picL1G.Visible = True  
picL1H.Visible = True  
picL1I.Visible = True  
picL1J.Visible = True  
picL1K.Visible = True  
picL1L.Visible = True  
picL1M.Visible = True  
picL1N.Visible = True  
picL2A.Visible = True  
picL3A.Visible = True  
picL3B.Visible = True  
picL3C.Visible = True  
picL3D.Visible = True  
picL3E.Visible = True  
picL3F.Visible = True  
picL3G.Visible = True  
picL3H.Visible = True  
picL3I.Visible = True  
picL3J.Visible = True

End If

ElseIf SubLevel = "B" Then

If chkFireAlarm.Checked = True Then

picSDB.Visible = True  
picSDC.Visible = True

End If

If chkLighting.Checked = True Then

picL1O.Visible = True  
picL1P.Visible = True  
picL1Q.Visible = True  
picL1R.Visible = True  
picL1S.Visible = True  
picL1T.Visible = True  
picL3K.Visible = True  
picL3L.Visible = True  
picL3M.Visible = True  
picL3N.Visible = True  
picL3O.Visible = True  
picL3P.Visible = True  
picL3Q.Visible = True  
picL3R.Visible = True  
picL3S.Visible = True  
picL3T.Visible = True  
picL3U.Visible = True  
picL3V.Visible = True  
picL3W.Visible = True  
picL3X.Visible = True  
picL3Y.Visible = True  
picL3Z.Visible = True  
picL3AA.Visible = True  
picL3AB.Visible = True  
picL3AC.Visible = True  
picL3AD.Visible = True  
picL3AE.Visible = True  
picL3AF.Visible = True  
picL3AG.Visible = True  
picL3AH.Visible = True  
picL3AI.Visible = True  
picL3AJ.Visible = True  
picL3AK.Visible = True

```
    picL3AL.Visible = True
    picL3AM.Visible = True
    picL3AN.Visible = True
End If
```

```
ElseIf SubLevel = "C" Then
    If chkFireAlarm.Checked = True Then
        picSDD.Visible = True
        picSDE.Visible = True
        picSDF.Visible = True
        picSDG.Visible = True
        picSDH.Visible = True
        picSDI.Visible = True
    End If
```

```
    If chkLighting.Checked = True Then
        picL1U.Visible = True
        picL1V.Visible = True
        picL1W.Visible = True
        picL1X.Visible = True
        picL1Y.Visible = True
        picL1Z.Visible = True
        picL3AO.Visible = True
        picL3AP.Visible = True
        picL3AQ.Visible = True
        picL3AR.Visible = True
        picL3AS.Visible = True
        picL3AT.Visible = True
        picL3AU.Visible = True
        picL3AV.Visible = True
        picL3AW.Visible = True
        picL3AX.Visible = True
        picL3AY.Visible = True
        picL3AZ.Visible = True
        picL3BA.Visible = True
        picL3BB.Visible = True
        picL3BC.Visible = True
        picL3BD.Visible = True
        picL3BE.Visible = True
        picL4A.Visible = True
        picL4B.Visible = True
    End If
```

```
ElseIf SubLevel = "D" Then
    If chkFireAlarm.Checked = True Then
        picSDJ.Visible = True
        picBGB.Visible = True
        picFEB.Visible = True
        picFHB.Visible = True
        picFAB.Visible = True
    End If
```

```
    If chkLighting.Checked = True Then
        picL1AA.Visible = True
        picL1AB.Visible = True
        picL1AC.Visible = True
        picL1AD.Visible = True
        picL1AE.Visible = True
        picL1AF.Visible = True
        picL1AG.Visible = True
        picL1AH.Visible = True
        picL1AI.Visible = True
        picL1AJ.Visible = True
        picL1AK.Visible = True
        picL1AL.Visible = True
        picL1AM.Visible = True
        picL1AN.Visible = True
        picL1AO.Visible = True
        picL1AP.Visible = True
        picL1AQ.Visible = True
    End If
```

```
picL1AR.Visible = True
picL1AS.Visible = True
picL1AT.Visible = True
picL1AU.Visible = True
picL1AV.Visible = True
picL1AW.Visible = True
picL3BF.Visible = True
picL3BG.Visible = True
picL4C.Visible = True
End If
```

```
ElseIf SubLevel = "E" Then
If chkFireAlarm.Checked = True Then
picSDK.Visible = True
picSDL.Visible = True
picBGC.Visible = True
picFEC.Visible = True
picFHC.Visible = True
picFAC.Visible = True
End If
```

```
If chkLighting.Checked = True Then
picL1AX.Visible = True
picL1AY.Visible = True
picL1AZ.Visible = True
picL1BA.Visible = True
picL1BB.Visible = True
picL1BC.Visible = True
picL1BD.Visible = True
picL1BE.Visible = True
picL1BF.Visible = True
picL1BG.Visible = True
picL1BH.Visible = True
picL2B.Visible = True
picL3BH.Visible = True
picL3BI.Visible = True
picL3BJ.Visible = True
picL3BK.Visible = True
picL3BL.Visible = True
picL3BM.Visible = True
picL3BN.Visible = True
picL3BO.Visible = True
picL3BP.Visible = True
picL3BQ.Visible = True
picL4D.Visible = True
End If
```

```
ElseIf SubLevel = "F" Then
If chkFireAlarm.Checked = True Then
picSDM.Visible = True
picSDN.Visible = True
End If
```

```
If chkLighting.Checked = True Then
picL1BI.Visible = True
picL1BJ.Visible = True
picL1BK.Visible = True
picL1BL.Visible = True
picL1BM.Visible = True
picL1BN.Visible = True
picL3BR.Visible = True
picL3BS.Visible = True
picL3BT.Visible = True
picL3BU.Visible = True
picL3BV.Visible = True
picL3BW.Visible = True
picL3BX.Visible = True
picL3BY.Visible = True
picL3BZ.Visible = True
picL3CA.Visible = True
```

```
picL3CB.Visible = True
picL3CC.Visible = True
picL3CD.Visible = True
picL3CE.Visible = True
picL3CF.Visible = True
picL3CG.Visible = True
picL3CH.Visible = True
picL3CI.Visible = True
picL3CJ.Visible = True
picL3CK.Visible = True
picL3CL.Visible = True
picL3CM.Visible = True
picL3CN.Visible = True
picL3CO.Visible = True
picL3CP.Visible = True
picL4E.Visible = True
picL4F.Visible = True
picL4G.Visible = True
picL4H.Visible = True
picL4I.Visible = True
```

End If

ElseIf SubLevel = "G" Then

If chkFireAlarm.Checked = True Then

```
picSDO.Visible = True
picSDP.Visible = True
picSDQ.Visible = True
```

End If

If chkLighting.Checked = True Then

```
picL1BO.Visible = True
picL1BP.Visible = True
picL1BQ.Visible = True
picL1BR.Visible = True
picL1BS.Visible = True
picL1BT.Visible = True
picL3CQ.Visible = True
picL3CR.Visible = True
picL3CS.Visible = True
picL3CT.Visible = True
picL3CU.Visible = True
picL3CV.Visible = True
picL3CW.Visible = True
picL3CX.Visible = True
picL3CY.Visible = True
picL3CZ.Visible = True
picL3DA.Visible = True
picL3DB.Visible = True
picL3DC.Visible = True
picL4J.Visible = True
picL4K.Visible = True
picL4L.Visible = True
picL4M.Visible = True
```

End If

ElseIf SubLevel = "H" Then

If chkFireAlarm.Checked = True Then

```
picSDR.Visible = True
picSDS.Visible = True
picBGD.Visible = True
picFED.Visible = True
picFHD.Visible = True
picFAD.Visible = True
```

End If

If chkLighting.Checked = True Then

```
picL1BU.Visible = True
picL1BX.Visible = True
picL1BY.Visible = True
picL1BZ.Visible = True
```





```

    picL1CA.Visible = True
    picL1CB.Visible = True
    picL1CC.Visible = True
    picL1CD.Visible = True
    picL1CE.Visible = True
    picL1CF.Visible = True
    picL1CG.Visible = True
    picL1CH.Visible = True
    picL1CI.Visible = True
    picL1CJ.Visible = True
    picL1CK.Visible = True
    picL1CL.Visible = True
    picL1CM.Visible = True
    picL1CN.Visible = True
    picL1CO.Visible = True
    picL3DD.Visible = True
    picL3DE.Visible = True
    picL3DF.Visible = True
    picL3DG.Visible = True
    picL4N.Visible = True

```

```
End If
```

```
Else
```

```
    ResetIcon()
```

```
End If
```

```
End If
```

```
End Sub
```

'Reset all the items of the zoom window

```
Public Sub ResetIcon()
```

```

    picBGA.Visible = False
    picBGB.Visible = False
    picBGC.Visible = False
    picBGD.Visible = False
    picFEA.Visible = False
    picFEB.Visible = False
    picFEC.Visible = False
    picFED.Visible = False
    picFHA.Visible = False
    picFHB.Visible = False
    picFHC.Visible = False
    picFHD.Visible = False
    picFAA.Visible = False
    picFAB.Visible = False
    picFAC.Visible = False
    picFAD.Visible = False
    picSDA.Visible = False
    picSDB.Visible = False
    picSDC.Visible = False
    picSDD.Visible = False
    picSDE.Visible = False
    picSDF.Visible = False
    picSDG.Visible = False
    picSDH.Visible = False
    picSDI.Visible = False
    picSDJ.Visible = False
    picSDK.Visible = False
    picSDL.Visible = False
    picSDM.Visible = False
    picSDN.Visible = False
    picSDO.Visible = False
    picSDP.Visible = False
    picSDQ.Visible = False
    picSDR.Visible = False
    picSDS.Visible = False
    picL1A.Visible = False
    picL1B.Visible = False
    picL1C.Visible = False

```

picL1D.Visible = False  
picL1E.Visible = False  
picL1F.Visible = False  
picL1G.Visible = False  
picL1H.Visible = False  
picL1I.Visible = False  
picL1J.Visible = False  
picL1K.Visible = False  
picL1L.Visible = False  
picL1M.Visible = False  
picL1N.Visible = False  
picL1O.Visible = False  
picL1P.Visible = False  
picL1Q.Visible = False  
picL1R.Visible = False  
picL1S.Visible = False  
picL1T.Visible = False  
picL1U.Visible = False  
picL1V.Visible = False  
picL1W.Visible = False  
picL1X.Visible = False  
picL1Y.Visible = False  
picL1Z.Visible = False  
picL1AA.Visible = False  
picL1AB.Visible = False  
picL1AC.Visible = False  
picL1AD.Visible = False  
picL1AE.Visible = False  
picL1AF.Visible = False  
picL1AG.Visible = False  
picL1AH.Visible = False  
picL1AI.Visible = False  
picL1AJ.Visible = False  
picL1AK.Visible = False  
picL1AL.Visible = False  
picL1AM.Visible = False  
picL1AN.Visible = False  
picL1AO.Visible = False  
picL1AP.Visible = False  
picL1AQ.Visible = False  
picL1AR.Visible = False  
picL1AS.Visible = False  
picL1AT.Visible = False  
picL1AU.Visible = False  
picL1AV.Visible = False  
picL1AW.Visible = False  
picL1AX.Visible = False  
picL1AY.Visible = False  
picL1AZ.Visible = False  
picL1BA.Visible = False  
picL1BB.Visible = False  
picL1BC.Visible = False  
picL1BD.Visible = False  
picL1BE.Visible = False  
picL1BF.Visible = False  
picL1BG.Visible = False  
picL1BH.Visible = False  
picL1BI.Visible = False  
picL1BJ.Visible = False  
picL1BK.Visible = False  
picL1BL.Visible = False  
picL1BM.Visible = False  
picL1BN.Visible = False  
picL1BO.Visible = False  
picL1BP.Visible = False  
picL1BQ.Visible = False  
picL1BR.Visible = False  
picL1BS.Visible = False  
picL1BT.Visible = False  
picL1BU.Visible = False

picL1BX.Visible = False  
picL1BY.Visible = False  
picL1BZ.Visible = False  
picL1CA.Visible = False  
picL1CB.Visible = False  
picL1CC.Visible = False  
picL1CD.Visible = False  
picL1CE.Visible = False  
picL1CF.Visible = False  
picL1CG.Visible = False  
picL1CH.Visible = False  
picL1CI.Visible = False  
picL1CJ.Visible = False  
picL1CK.Visible = False  
picL1CL.Visible = False  
picL1CM.Visible = False  
picL1CN.Visible = False  
picL1CO.Visible = False  
picL2A.Visible = False  
picL2B.Visible = False  
picL3A.Visible = False  
picL3B.Visible = False  
picL3C.Visible = False  
picL3D.Visible = False  
picL3E.Visible = False  
picL3F.Visible = False  
picL3G.Visible = False  
picL3H.Visible = False  
picL3I.Visible = False  
picL3J.Visible = False  
picL3K.Visible = False  
picL3L.Visible = False  
picL3M.Visible = False  
picL3N.Visible = False  
picL3O.Visible = False  
picL3P.Visible = False  
picL3Q.Visible = False  
picL3R.Visible = False  
picL3S.Visible = False  
picL3T.Visible = False  
picL3U.Visible = False  
picL3V.Visible = False  
picL3W.Visible = False  
picL3X.Visible = False  
picL3Y.Visible = False  
picL3Z.Visible = False  
picL3AA.Visible = False  
picL3AB.Visible = False  
picL3AC.Visible = False  
picL3AD.Visible = False  
picL3AE.Visible = False  
picL3AF.Visible = False  
picL3AG.Visible = False  
picL3AH.Visible = False  
picL3AI.Visible = False  
picL3AJ.Visible = False  
picL3AK.Visible = False  
picL3AL.Visible = False  
picL3AM.Visible = False  
picL3AN.Visible = False  
picL3AO.Visible = False  
picL3AP.Visible = False  
picL3AQ.Visible = False  
picL3AR.Visible = False  
picL3AS.Visible = False  
picL3AT.Visible = False  
picL3AU.Visible = False  
picL3AV.Visible = False  
picL3AW.Visible = False  
picL3AX.Visible = False

picL3AY.Visible = False  
picL3AZ.Visible = False  
picL3BA.Visible = False  
picL3BB.Visible = False  
picL3BC.Visible = False  
picL3BD.Visible = False  
picL3BE.Visible = False  
picL3BF.Visible = False  
picL3BG.Visible = False  
picL3BH.Visible = False  
picL3BI.Visible = False  
picL3BJ.Visible = False  
picL3BK.Visible = False  
picL3BL.Visible = False  
picL3BM.Visible = False  
picL3BN.Visible = False  
picL3BO.Visible = False  
picL3BP.Visible = False  
picL3BQ.Visible = False  
picL3BR.Visible = False  
picL3BS.Visible = False  
picL3BT.Visible = False  
picL3BU.Visible = False  
picL3BV.Visible = False  
picL3BW.Visible = False  
picL3BX.Visible = False  
picL3BY.Visible = False  
picL3BZ.Visible = False  
picL3CA.Visible = False  
picL3CB.Visible = False  
picL3CC.Visible = False  
picL3CD.Visible = False  
picL3CE.Visible = False  
picL3CF.Visible = False  
picL3CG.Visible = False  
picL3CH.Visible = False  
picL3CI.Visible = False  
picL3CJ.Visible = False  
picL3CK.Visible = False  
picL3CL.Visible = False  
picL3CM.Visible = False  
picL3CN.Visible = False  
picL3CO.Visible = False  
picL3CP.Visible = False  
picL3CQ.Visible = False  
picL3CR.Visible = False  
picL3CS.Visible = False  
picL3CT.Visible = False  
picL3CU.Visible = False  
picL3CV.Visible = False  
picL3CW.Visible = False  
picL3CX.Visible = False  
picL3CY.Visible = False  
picL3CZ.Visible = False  
picL3DA.Visible = False  
picL3DB.Visible = False  
picL3DC.Visible = False  
picL3DD.Visible = False  
picL3DE.Visible = False  
picL3DF.Visible = False  
picL3DG.Visible = False  
picL4A.Visible = False  
picL4B.Visible = False  
picL4C.Visible = False  
picL4D.Visible = False  
picL4E.Visible = False  
picL4F.Visible = False  
picL4G.Visible = False  
picL4H.Visible = False  
picL4I.Visible = False

```

picL4J.Visible = False
picL4K.Visible = False
picL4L.Visible = False
picL4M.Visible = False
picL4N.Visible = False
End Sub

```

'Load Form4 and initializing

```

Private Sub Form4_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    ValidateInstance = True
    ValidateInstance2 = True
    lblDateTime.Text = Format(Today, "Long Date") & ", " & Format(TimeOfDay, "Medium Time")

```

```

    FileOpen(1, "Building.txt", OpenMode.Input)
    Input(1, BuildingSelected)
    FileClose(1)

```

```

    FileOpen(1, "Level.txt", OpenMode.Input)
    Input(1, LevelSelected)
    FileClose(1)

```

```

If BuildingSelected = "13" Then
    intNumRecord = 0
    intNumRecord2 = 0
    intNumRecord3 = 0
    intNumRecord4 = 0
    Counter = 0
    Counter2 = 0

```

```

    FileOpen(1, "Building13Pic.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtBuildingPicture(intNumRecord).strA)
        Input(1, udtBuildingPicture(intNumRecord).strB)
        Input(1, udtBuildingPicture(intNumRecord).strC)
        Input(1, udtBuildingPicture(intNumRecord).strD)
        Input(1, udtBuildingPicture(intNumRecord).strE)
        Input(1, udtBuildingPicture(intNumRecord).strF)
        Input(1, udtBuildingPicture(intNumRecord).strG)
        Input(1, udtBuildingPicture(intNumRecord).strH)
        intNumRecord += 1
    Loop
    FileClose(1)

```

```

    FileOpen(1, "Building13FASPic.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strA)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strB)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strC)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strD)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strE)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strF)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strG)
        Input(1, udtBuildingPictureFAS(intNumRecord2).strH)
        intNumRecord2 += 1
    Loop
    FileClose(1)

```

```

    FileOpen(1, "Building13LightPic.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strA)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strB)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strC)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strD)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strE)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strF)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strG)
        Input(1, udtBuildingPictureLighting(intNumRecord3).strH)
        intNumRecord3 += 1
    Loop
    FileClose(1)

```

```

Loop
FileClose(1)

FileOpen(1, "Building13BothPic.txt", OpenMode.Input)
Do Until EOF(1)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strA)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strB)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strC)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strD)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strE)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strF)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strG)
    Input(1, udtBuildingPictureBoth(intNumRecord4).strH)
    intNumRecord4 += 1
Loop
FileClose(1)

FileOpen(1, "FASDbase0.txt", OpenMode.Input)
Do Until EOF(1)
    Input(1, udtFASDbase0(Counter2).Item)
    Input(1, udtFASDbase0(Counter2).Code)
    Input(1, udtFASDbase0(Counter2).Location)
    Input(1, udtFASDbase0(Counter2).Status)
    Input(1, udtFASDbase0(Counter2).Note)
    Input(1, udtFASDbase0(Counter2).DayLast)
    Input(1, udtFASDbase0(Counter2).MonthLast)
    Input(1, udtFASDbase0(Counter2).YearLast)
    Input(1, udtFASDbase0(Counter2).DayNext)
    Input(1, udtFASDbase0(Counter2).MonthNext)
    Input(1, udtFASDbase0(Counter2).YearNext)
    Input(1, udtFASDbase0(Counter2).Cost)
    Input(1, udtFASDbase0(Counter2).Operator)
    Counter2 += 1
Loop
FileClose(1)

FileOpen(1, "LightingDbase0.txt", OpenMode.Input)
Do Until EOF(1)
    Input(1, udtLightingDbase0(Counter).Item)
    Input(1, udtLightingDbase0(Counter).Code)
    Input(1, udtLightingDbase0(Counter).Location)
    Input(1, udtLightingDbase0(Counter).Status)
    Input(1, udtLightingDbase0(Counter).Note)
    Input(1, udtLightingDbase0(Counter).DayLast)
    Input(1, udtLightingDbase0(Counter).MonthLast)
    Input(1, udtLightingDbase0(Counter).YearLast)
    Input(1, udtLightingDbase0(Counter).DayNext)
    Input(1, udtLightingDbase0(Counter).MonthNext)
    Input(1, udtLightingDbase0(Counter).YearNext)
    Input(1, udtLightingDbase0(Counter).Cost)
    Input(1, udtLightingDbase0(Counter).Supplier)
    Input(1, udtLightingDbase0(Counter).Contractor)
    Counter += 1
Loop
FileClose(1)

pic0A.Image = Image.FromFile(udtBuildingPicture(0).strA)
pic0B.Image = Image.FromFile(udtBuildingPicture(0).strB)
pic0C.Image = Image.FromFile(udtBuildingPicture(0).strC)
pic0D.Image = Image.FromFile(udtBuildingPicture(0).strD)
pic0E.Image = Image.FromFile(udtBuildingPicture(0).strE)
pic0F.Image = Image.FromFile(udtBuildingPicture(0).strF)
pic0G.Image = Image.FromFile(udtBuildingPicture(0).strG)
pic0H.Image = Image.FromFile(udtBuildingPicture(0).strH)

pic1A.Image = Image.FromFile(udtBuildingPicture(1).strA)
pic1B.Image = Image.FromFile(udtBuildingPicture(1).strB)
pic1C.Image = Image.FromFile(udtBuildingPicture(1).strC)
pic1D.Image = Image.FromFile(udtBuildingPicture(1).strD)
pic1E.Image = Image.FromFile(udtBuildingPicture(1).strE)

```

```

pic1F.Image = Image.FromFile(udtBuildingPicture(1).strF)
pic1G.Image = Image.FromFile(udtBuildingPicture(1).strG)
pic1H.Image = Image.FromFile(udtBuildingPicture(1).strH)

```

```

pic2A.Image = Image.FromFile(udtBuildingPicture(2).strA)
pic2B.Image = Image.FromFile(udtBuildingPicture(2).strB)
pic2C.Image = Image.FromFile(udtBuildingPicture(2).strC)
pic2D.Image = Image.FromFile(udtBuildingPicture(2).strD)
pic2E.Image = Image.FromFile(udtBuildingPicture(2).strE)
pic2F.Image = Image.FromFile(udtBuildingPicture(2).strF)
pic2G.Image = Image.FromFile(udtBuildingPicture(2).strG)
pic2H.Image = Image.FromFile(udtBuildingPicture(2).strH)

```

```

pic3A.Image = Image.FromFile(udtBuildingPicture(3).strA)
pic3B.Image = Image.FromFile(udtBuildingPicture(3).strB)
pic3C.Image = Image.FromFile(udtBuildingPicture(3).strC)
pic3D.Image = Image.FromFile(udtBuildingPicture(3).strD)
pic3E.Image = Image.FromFile(udtBuildingPicture(3).strE)
pic3F.Image = Image.FromFile(udtBuildingPicture(3).strF)
pic3G.Image = Image.FromFile(udtBuildingPicture(3).strG)
pic3H.Image = Image.FromFile(udtBuildingPicture(3).strH)

```

```
End If
```

```

If LevelSelected = "Level 0" Then
    tabLevel.SelectedIndex = 0
ElseIf LevelSelected = "Level 1" Then
    tabLevel.SelectedIndex = 1
ElseIf LevelSelected = "Level 2" Then
    tabLevel.SelectedIndex = 2
ElseIf LevelSelected = "Level 3" Then
    tabLevel.SelectedIndex = 3
End If

```

```
lblBuildingInfo.Text = "Building " & BuildingSelected
```

```
End Sub
```

```
'Form4 closing confirmation and clear added items
```

```
Private Sub Form4_Closing(ByVal sender As System.Object, ByVal e As _
System.ComponentModel.CancelEventArgs) Handles MyBase.Closing
```

```

    Dim intResponse As Integer
    intResponse = MsgBox("Do you really want to exit this application?", 276, "Exit?")
    If intResponse = 6 Then
        ClearAddedItem()
    End If
    Else
        e.Cancel = True
    End If
End Sub

```

```
'Go back to Form3
```

```
Private Sub btnBack_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnBack.Click
```

```

    Me.Hide()
    Dim frmTest As Form3
    frmTest = New Form3()
    frmTest.Show()
End Sub

```

```
'Logout confirmation and clear added items
```

```
Private Sub btnLogout_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnLogout.Click
```

```

    Dim intResponse As Integer
    intResponse = MsgBox("Do you really want to logout?", 276, "Logout?")
    If intResponse = 6 Then

```



```

        ClearAddedItem()
        Me.Hide()
        Dim frmTest As Form1
        frmTest = New Form1()
        frmTest.Show()
    Else
        Exit Sub
    End If
End Sub

'Go to Form2 as Main form
'-----

Private Sub btnMain_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnMain.Click
    Me.Hide()
    Dim frmTest As Form2
    frmTest = New Form2()
    frmTest.Show()
End Sub

'Handling zooming window. Portion that is selected will be displayed
'on the zooming window
'Reset icons and also trigger CheckInfo2() function for particular
'portion of map
'-----

'Picture Level 0
'-----

Private Sub pic0A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0A.Click
    SubLevel = "A"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strA)
    ResetIcon()
    CheckInfo2()
End Sub

Private Sub pic0B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0B.Click
    SubLevel = "B"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strB)
    ResetIcon()
    CheckInfo2()
End Sub

Private Sub pic0C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0C.Click
    SubLevel = "C"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strC)
    ResetIcon()
    CheckInfo2()
End Sub

Private Sub pic0D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0D.Click
    SubLevel = "D"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strD)
    ResetIcon()
    CheckInfo2()
End Sub

Private Sub pic0E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0E.Click
    SubLevel = "E"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strE)
    ResetIcon()
    CheckInfo2()
End Sub

Private Sub pic0F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0F.Click
    SubLevel = "F"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strF)
    ResetIcon()
    CheckInfo2()
End Sub

```

```

Private Sub pic0G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0G.Click
    SubLevel = "G"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strG)
    ResetIcon()
    CheckInfo2()
End Sub

```

```

Private Sub pic0H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic0H.Click
    SubLevel = "H"
    picZoom.Image = Image.FromFile(udtBuildingPicture(0).strH)
    ResetIcon()
    CheckInfo2()
End Sub

```

'Picture Level 1  
 '-----

```

Private Sub pic1A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1A.Click
    SubLevel = "A"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strA)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1B.Click
    SubLevel = "B"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strB)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1C.Click
    SubLevel = "C"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strC)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1D.Click
    SubLevel = "D"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strD)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1E.Click
    SubLevel = "E"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strE)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1F.Click
    SubLevel = "F"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strF)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1G.Click
    SubLevel = "G"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strG)
    'ResetIcon()
    'CheckInfo2()
End Sub

```

```

Private Sub pic1H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic1H.Click
    SubLevel = "H"
    picZoom.Image = Image.FromFile(udtBuildingPicture(1).strH)

```

```
'ResetIcon()
'CheckInfo2()
End Sub
```

```
'Picture Level 2
'-----
```

```
Private Sub pic2A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2A.Click
    SubLevel = "A"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strA)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2B.Click
    SubLevel = "B"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strB)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2C.Click
    SubLevel = "C"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strC)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2D.Click
    SubLevel = "D"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strD)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2E.Click
    SubLevel = "E"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strE)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2F.Click
    SubLevel = "F"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strF)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2G.Click
    SubLevel = "G"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strG)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
Private Sub pic2H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic2H.Click
    SubLevel = "H"
    picZoom.Image = Image.FromFile(udtBuildingPicture(2).strH)
    'ResetIcon()
    'CheckInfo2()
End Sub
```

```
'Picture Level 3
'-----
```

```
Private Sub pic3A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3A.Click
    SubLevel = "A"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strA)
    'ResetIcon()
```

```

'CheckInfo2()
End Sub

Private Sub pic3B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3B.Click
    SubLevel = "B"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strB)
    ResetIcon()
    'CheckInfo2()
End Sub

Private Sub pic3C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3C.Click
    SubLevel = "C"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strC)
    ResetIcon()
    'CheckInfo2()
End Sub

Private Sub pic3D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3D.Click
    SubLevel = "D"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strD)
    ResetIcon()
    'CheckInfo2()
End Sub

Private Sub pic3E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3E.Click
    SubLevel = "E"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strE)
    ResetIcon()
    'CheckInfo2()
End Sub

Private Sub pic3F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3F.Click
    SubLevel = "F"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strF)
    ResetIcon()
    'CheckInfo2()
End Sub

Private Sub pic3G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3G.Click
    SubLevel = "G"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strG)
    ResetIcon()
    'CheckInfo2()
End Sub

Private Sub pic3H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles pic3H.Click
    SubLevel = "H"
    picZoom.Image = Image.FromFile(udtBuildingPicture(3).strH)
    ResetIcon()
    'CheckInfo2()
End Sub

'Maintenance finalization confirmation and load Form5
'-----

Private Sub btnNext_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnNext.Click
    Dim intResponse As Integer
    intResponse = MsgBox("Do you want to proceed with maintenance finalization?", 276, "Proceed?")
    If intResponse = 6 Then
        Me.Hide()
        Dim frmTest2 As Form5
        frmTest2 = New Form5()
        frmTest2.Show()
    Else
        Exit Sub
    End If
End Sub

'Handling change in FAS, Lighting and Room Information check boxes
'-----

```

```

Private Sub chkFireAlarm_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chkFireAlarm.CheckedChanged
    CheckBox()
    ResetIcon()
    CheckInfo2()
End Sub

```

```

Private Sub chkLighting_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chkLighting.CheckedChanged
    CheckBox()
    ResetIcon()
    CheckInfo2()
End Sub

```

```

Private Sub chkRoomInfo_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chkRoomInfo.CheckedChanged
    CheckInfo()
End Sub

```

'Handling Legend and Summary buttons  
'-----

```

Private Sub btnLegend_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnLegend.Click
    Dim frmLegend As Form4_3
    frmLegend = New Form4_3()
    frmLegend.Show()
End Sub

```

'Handling Items Lamp Type 1 (L1)  
'-----

'Handling L1A - L1Z  
'-----

```

Private Sub picL1A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1A.Click
    Reference = 3
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1B.Click
    Reference = 10
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1C.Click
    Reference = 17
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1D.Click
    Reference = 24
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False

```

End Sub

```
Private Sub picL1E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1E.Click
    Reference = 25
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1F.Click
    Reference = 4
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1G.Click
    Reference = 11
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1H.Click
    Reference = 18
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1I_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1I.Click
    Reference = 5
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1J_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1J.Click
    Reference = 12
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1K_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1K.Click
    Reference = 19
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1L_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1L.Click
    Reference = 6
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
End Sub
```

```

    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1M_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1M.Click
    Reference = 13
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1N_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1N.Click
    Reference = 20
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1O_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1O.Click
    Reference = 26
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1P_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1P.Click
    Reference = 27
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1Q_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1Q.Click
    Reference = 28
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1R_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1R.Click
    Reference = 29
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1S_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1S.Click
    Reference = 30
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1T_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1T.Click
    Reference = 31
    Item = "Lighting"

```

```

    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picLIU_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIU.Click
    Reference = 32
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picLIV_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIV.Click
    Reference = 33
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picLIW_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIW.Click
    Reference = 34
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picLIX_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIX.Click
    Reference = 35
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picLIY_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIY.Click
    Reference = 36
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picLIZ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIZ.Click
    Reference = 37
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

Handling L1AA - L1AZ  
 -----

```

Private Sub picL1AA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AA.Click
    Reference = 38
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False

```



End Sub

```
Private Sub picL1AB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AB.Click
    Reference = 39
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AC.Click
    Reference = 40
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AD.Click
    Reference = 41
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AE.Click
    Reference = 66
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AF.Click
    Reference = 67
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AG.Click
    Reference = 68
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AH.Click
    Reference = 69
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1AI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AI.Click
    Reference = 70
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
```

```

    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AJ.Click
    Reference = 78
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AK.Click
    Reference = 88
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AL.Click
    Reference = 80
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AM.Click
    Reference = 81
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AN.Click
    Reference = 82
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AO.Click
    Reference = 83
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AP_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AP.Click
    Reference = 84
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1AQ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AQ.Click
    Reference = 85
    Item = "Lighting"

```

```
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAR_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAR.Click
    Reference = 86
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAS_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAS.Click
    Reference = 87
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAT_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAT.Click
    Reference = 60
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAU_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAU.Click
    Reference = 62
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAV_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAV.Click
    Reference = 64
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAW_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAW.Click
    Reference = 71
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAX_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAX.Click
    Reference = 7
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picLIAY_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picLIAY.Click
```

```

Reference = 14
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1AZ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1AZ.Click
    Reference = 21
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

Handling L1BA - L1BZ

```

Private Sub picL1BA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BA.Click
    Reference = 8
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BB.Click
    Reference = 15
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BC.Click
    Reference = 22
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BD.Click
    Reference = 9
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BE.Click
    Reference = 16
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BF.Click
    Reference = 23
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()

```

```

    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BG.Click
    Reference = 42
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BH.Click
    Reference = 43
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BI.Click
    Reference = 44
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BJ.Click
    Reference = 45
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BK.Click
    Reference = 46
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BL.Click
    Reference = 47
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BM.Click
    Reference = 48
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1BN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BN.Click
    Reference = 49
    Item = "Lighting"

```

```
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BO.Click
    Reference = 50
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BP_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BP.Click
    Reference = 51
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BQ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BQ.Click
    Reference = 52
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BR_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BR.Click
    Reference = 53
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BS_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BS.Click
    Reference = 54
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BT_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BT.Click
    Reference = 55
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BU_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BU.Click
    Reference = 60
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL1BV_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BV.Click
```

```

Reference = 63
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BW_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BW.Click
Reference = 65
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BX_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BX.Click
Reference = 72
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BY_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BY.Click
Reference = 73
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1BZ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1BZ.Click
Reference = 74
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

Handling L1CA - L1CO  
'-----'

```

Private Sub picL1CA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CA.Click
Reference = 75
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1CB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CB.Click
Reference = 76
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picL1CC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CC.Click
Reference = 77
Item = "Lighting"
SaveTemp3()
SaveTemp()

```

```

    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CD.Click
    Reference = 56
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CE.Click
    Reference = 57
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CF.Click
    Reference = 58
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CG.Click
    Reference = 59
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CH.Click
    Reference = 89
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CI.Click
    Reference = 90
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CJ.Click
    Reference = 91
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL1CK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CK.Click
    Reference = 92
    Item = "Lighting"

```



```

    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1CL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CL.Click
    Reference = 93
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1CM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CM.Click
    Reference = 94
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1CN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CN.Click
    Reference = 95
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL1CO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL1CO.Click
    Reference = 96
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

'Handling Items Lamp Type 2 (L2)  
'-----

```

Private Sub picL2A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL2A.Click
    Reference = 1
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL2B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL2B.Click
    Reference = 2
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

'Handling Items Lamp Type 3 (L3)  
'-----

'Handling L3A - L3Z  
'-----

```

Private Sub picL3A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3A.Click

```

```

Reference = 97
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3B.Click
Reference = 98
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3C.Click
Reference = 99
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3D.Click
Reference = 100
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3E.Click
Reference = 101
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3F.Click
Reference = 102
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3G.Click
Reference = 103
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

Private Sub picL3H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3H.Click
Reference = 104
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```
Private Sub picL3I_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3I.Click
    Reference = 105
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3J_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3J.Click
    Reference = 106
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3K_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3K.Click
    Reference = 107
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3L_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3L.Click
    Reference = 108
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3M_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3M.Click
    Reference = 109
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3N_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3N.Click
    Reference = 110
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3O_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3O.Click
    Reference = 111
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3P_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3P.Click
    Reference = 112
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
End Sub
```

```
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3Q_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3Q.Click  
    Reference = 113  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3R_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3R.Click  
    Reference = 114  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3S_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3S.Click  
    Reference = 115  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3T_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3T.Click  
    Reference = 116  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3U_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3U.Click  
    Reference = 117  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3V_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3V.Click  
    Reference = 118  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3W_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3W.Click  
    Reference = 119  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3X_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3X.Click  
    Reference = 120  
    Item = "Lighting"  
    SaveTemp3()
```

```

    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3Y_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3Y.Click
    Reference = 121
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3Z_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3Z.Click
    Reference = 122
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

'Handling L3AA - L3AZ
'-----

```

```

Private Sub picL3AA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AA.Click
    Reference = 123
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AB.Click
    Reference = 124
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AC.Click
    Reference = 125
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AD.Click
    Reference = 126
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AE.Click
    Reference = 127
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AF.Click
    Reference = 128
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AG.Click
    Reference = 129
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AH.Click
    Reference = 130
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AI.Click
    Reference = 131
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AJ.Click
    Reference = 132
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AK.Click
    Reference = 133
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AL.Click
    Reference = 134
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

Private Sub picL3AM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AM.Click
    Reference = 135
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()

```

```
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AN.Click
    Reference = 136
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AO.Click
    Reference = 137
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AP_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AP.Click
    Reference = 138
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AQ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AQ.Click
    Reference = 139
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AR_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AR.Click
    Reference = 140
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AS_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AS.Click
    Reference = 141
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AT_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AT.Click
    Reference = 142
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3AU_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AU.Click
    Reference = 143
    Item = "Lighting"
    SaveTemp3()
```

```

    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AV_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AV.Click
    Reference = 144
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AW_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AW.Click
    Reference = 145
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AX_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AX.Click
    Reference = 146
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AY_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AY.Click
    Reference = 147
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3AZ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3AZ.Click
    Reference = 148
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

Handling L3BA - L3BZ  
 -----

```

Private Sub picL3BA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BA.Click
    Reference = 149
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3BB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BB.Click
    Reference = 150
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```



```
Private Sub picL3BC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BC.Click
    Reference = 151
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BD.Click
    Reference = 155
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BE.Click
    Reference = 157
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BF.Click
    Reference = 152
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BG.Click
    Reference = 153
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BH.Click
    Reference = 168
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BI.Click
    Reference = 169
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BJ.Click
    Reference = 170
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
```

```
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BK.Click
    Reference = 171
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BL.Click
    Reference = 172
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BM.Click
    Reference = 173
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BN.Click
    Reference = 174
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BO.Click
    Reference = 175
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BP_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BP.Click
    Reference = 176
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BQ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BQ.Click
    Reference = 177
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3BR_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BR.Click
    Reference = 178
    Item = "Lighting"
    SaveTemp3()
```

```
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BS_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BS.Click  
Reference = 179  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BT_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BT.Click  
Reference = 180  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BU_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BU.Click  
Reference = 181  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BV_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BV.Click  
Reference = 182  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BW_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BW.Click  
Reference = 183  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BX_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BX.Click  
Reference = 184  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BY_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BY.Click  
Reference = 185  
Item = "Lighting"  
SaveTemp3()  
SaveTemp()  
CheckInfo3()  
ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3BZ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3BZ.Click  
Reference = 186
```

```

    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

'Handling L3CA - L3CZ
'-----

```

```

Private Sub picL3CA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CA.Click
    Reference = 187
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CB.Click
    Reference = 188
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CC.Click
    Reference = 189
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CD.Click
    Reference = 190
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CE.Click
    Reference = 191
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CF.Click
    Reference = 192
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CG.Click
    Reference = 193
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()

```

```
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CH.Click  
    Reference = 194  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CI.Click  
    Reference = 195  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CJ.Click  
    Reference = 196  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CK.Click  
    Reference = 197  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CL.Click  
    Reference = 198  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CM.Click  
    Reference = 199  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CN.Click  
    Reference = 200  
    Item = "Lighting"  
    SaveTemp3()  
    SaveTemp()  
    CheckInfo3()  
    ValidateInstance2 = False  
End Sub
```

```
Private Sub picL3CO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CO.Click  
    Reference = 201  
    Item = "Lighting"  
    SaveTemp3()
```

```

    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CP_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CP.Click
    Reference = 202
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CQ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CQ.Click
    Reference = 203
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CR_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CR.Click
    Reference = 204
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CS_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CS.Click
    Reference = 205
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CT_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CT.Click
    Reference = 206
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CU_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CU.Click
    Reference = 207
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CV_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CV.Click
    Reference = 209
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CW_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CW.Click
    Reference = 210

```

```

    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CX_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CX.Click
    Reference = 211
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CY_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CY.Click
    Reference = 213
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3CZ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3CZ.Click
    Reference = 214
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

Handling L3DA - L3DG  
 '-----'

```

Private Sub picL3DA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DA.Click
    Reference = 215
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3DB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DB.Click
    Reference = 164
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3DC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DC.Click
    Reference = 166
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL3DD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DD.Click
    Reference = 217
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()

```

```
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3DE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DE.Click
    Reference = 218
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3DF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DF.Click
    Reference = 219
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL3DG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL3DG.Click
    Reference = 220
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

'Handling Item Lamp Type 4 (L4)

```
Private Sub picL4A_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4A.Click
    Reference = 154
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL4B_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4B.Click
    Reference = 156
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL4C_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4C.Click
    Reference = 158
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL4D_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4D.Click
    Reference = 159
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picL4E_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4E.Click
```



```
Reference = 160
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4F_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4F.Click
Reference = 161
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4G_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4G.Click
Reference = 162
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4H_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4H.Click
Reference = 163
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4I_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4I.Click
Reference = 221
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4J_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4J.Click
Reference = 208
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4K_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4K.Click
Reference = 212
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```
Private Sub picL4L_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4L.Click
Reference = 165
Item = "Lighting"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub
```

```

Private Sub picL4M_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4M.Click
    Reference = 216
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picL4N_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picL4N.Click
    Reference = 167
    Item = "Lighting"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

'Handling Items Smoke Detector (SD)

```

Private Sub picSDA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDA.Click
    Reference = 1
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDB.Click
    Reference = 2
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDC.Click
    Reference = 3
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDD.Click
    Reference = 4
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDE_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDE.Click
    Reference = 5
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDF_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDF.Click
    Reference = 8
    Item = "FAS"

```

```

    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDG_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDG.Click
    Reference = 9
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDH_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDH.Click
    Reference = 6
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDI_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDI.Click
    Reference = 7
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDJ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDJ.Click
    Reference = 10
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDK_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDK.Click
    Reference = 15
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDL_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDL.Click
    Reference = 11
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDM_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDM.Click
    Reference = 12
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picSDN_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDN.Click

```

```

Reference = 16
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picSDO_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDO.Click
Reference = 13
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picSDP_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDP.Click
Reference = 14
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picSDQ_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDQ.Click
Reference = 17
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picSDR_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDR.Click
Reference = 18
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picSDS_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picSDS.Click
Reference = 19
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

"Handling Items Break Glass (BG)"

```

Private Sub picBGA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picBGA.Click
Reference = 20
Item = "FAS"
SaveTemp3()
SaveTemp()
CheckInfo3()
ValidateInstance2 = False
End Sub

```

```

Private Sub picBGB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picBGB.Click
Reference = 24
Item = "FAS"
SaveTemp3()
SaveTemp()

```

```

    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picBGC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picBGC.Click
    Reference = 28
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picBGD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picBGD.Click
    Reference = 32
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

'Handling Items Fire Extinguisher (FE)

```

Private Sub picFEA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFEA.Click
    Reference = 21
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picFEB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFEB.Click
    Reference = 25
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picFEC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFEC.Click
    Reference = 29
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

```

Private Sub picFED_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFED.Click
    Reference = 33
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub

```

'Handling Items Fire Hose (FH)

```

Private Sub picFHA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFHA.Click
    Reference = 22
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()

```

```
    ValidateInstance2 = False
End Sub
```

```
Private Sub picFHB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFHB.Click
    Reference = 26
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picFHC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFHC.Click
    Reference = 30
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picFHD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFHD.Click
    Reference = 34
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

'Handling Items Fire Alarm (FA)

```
Private Sub picFAA_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFAA.Click
    Reference = 23
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picFAB_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFAB.Click
    Reference = 27
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picFAC_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFAC.Click
    Reference = 31
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

```
Private Sub picFAD_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles picFAD.Click
    Reference = 35
    Item = "FAS"
    SaveTemp3()
    SaveTemp()
    CheckInfo3()
    ValidateInstance2 = False
End Sub
```

'Reset the zoom picture box and reset all icon when there is change in tab selection

```

-----
Private Sub tabLevel_SelectedIndexChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
tabLevel.SelectedIndexChanged
    picZoom.Image = Nothing
    chkLighting.Checked = False
    chkFireAlarm.Checked = False
    chkRoomInfo.Checked = False
    LevelSelected = "Level " & tabLevel.SelectedIndex
    SubLevel = "none"
    ResetIcon()
End Sub

'Pop out From4.5 for statistics of the items
'-----

Private Sub btnStatistic_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnStatistic.Click
    Dim frmStats As Form4_5
    frmStats = New Form4_5()
    frmStats.Show()
End Sub
End Class

```

```

Public Class Form4_2
    Inherits System.Windows.Forms.Form

```

```

    'Declaring arrays and variables
    '-----

```

```

    Dim RoomDetails(20) As String
    Dim BuildingSelected As String
    Dim LevelSelected As String
    Dim intNumRecord As Integer

```

```

'Initialization of Form4.2 and displaying rooms information
'-----

```

```

Private Sub Form4_2_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    FileOpen(1, "Building.txt", OpenMode.Input)
    Input(1, BuildingSelected)
    FileClose(1)

```

```

    FileOpen(1, "Level.txt", OpenMode.Input)
    Input(1, LevelSelected)
    FileClose(1)

```

```

    If BuildingSelected = "13" And LevelSelected = "Level 0" Then
        FileOpen(1, "Building13Lv0Rooms.txt", OpenMode.Input)
        Do Until EOF(1)
            Input(1, RoomDetails(intNumRecord))
            intNumRecord += 1
        Loop
        FileClose(1)
    End If

```

```

    lblRoom1.Text = RoomDetails(0)
    lblRoom2.Text = RoomDetails(1)
    lblRoom3.Text = RoomDetails(2)
    lblRoom4.Text = RoomDetails(3)
    lblRoom5.Text = RoomDetails(4)
    lblRoom6.Text = RoomDetails(5)
    lblRoom7.Text = RoomDetails(6)
    lblRoom8.Text = RoomDetails(7)
    lblRoom9.Text = RoomDetails(8)
    lblRoom10.Text = RoomDetails(9)
    lblRoom11.Text = RoomDetails(10)
    lblRoom12.Text = RoomDetails(11)
    lblRoom13.Text = RoomDetails(12)
    lblRoom14.Text = RoomDetails(13)

```

```

    lblRoom15.Text = RoomDetails(14)
    lblRoom16.Text = RoomDetails(15)
    lblRoom17.Text = RoomDetails(16)
    lblRoom18.Text = RoomDetails(17)
    lblRoom19.Text = RoomDetails(18)
End Sub
End Class

```

```

Public Class Form4_4
    Inherits System.Windows.Forms.Form

    'Structure for Level 0 Lighting Database
    '-----

```

```

Structure LightingDbase0
    Dim Item As String
    Dim Code As String
    Dim Location As String
    Dim Status As String
    Dim Note As String
    Dim DayLast As Integer
    Dim MonthLast As Integer
    Dim YearLast As Integer
    Dim DayNext As Integer
    Dim MonthNext As Integer
    Dim YearNext As Integer
    Dim Cost As Double
    Dim Supplier As String
    Dim Contractor As String
End Structure

```

```

'Structure for Level 0 Fire Alarm System Database
'-----

```

```

Structure FASDbase0
    Dim Item As String
    Dim Code As String
    Dim Location As String
    Dim Status As String
    Dim Note As String
    Dim DayLast As Integer
    Dim MonthLast As Integer
    Dim YearLast As Integer
    Dim DayNext As Integer
    Dim MonthNext As Integer
    Dim YearNext As Integer
    Dim Cost As Double
    Dim Operator As String
End Structure

```

```

'Structure for AddedItem temp file
'-----

```

```

Structure AddedItem
    Dim ItemID As Integer
    Dim ItemType As Integer
End Structure

```

```

'Declaring arrays and variables
'-----

```

```

Dim udtLightingDbase0(500) As LightingDbase0
Dim udtFASDbase0(500) As FASDbase0
Dim udtAddedItem(15) As AddedItem
Dim Counter As Integer
Dim Counter2 As Integer
Dim Counter3 As Integer
Dim Reference3 As Integer
Dim intIndex As Integer

```



Dim Item As String

'Refreshing list of AddedItem

```
'-----  
Public Sub RefreshList()  
    FileOpen(1, "AddedItem.txt", OpenMode.Input)  
    Do Until EOF(1)  
        Input(1, udtAddedItem(Counter2).ItemID)  
        Input(1, udtAddedItem(Counter2).ItemType)  
        Counter2 += 1  
    Loop  
    FileClose(1)  
  
End Sub
```

'Refreshing list of Type Of Item and also Item ID

```
'-----  
Public Sub RefreshList2()  
    FileOpen(1, "MaintenanceTemp.txt", OpenMode.Input)  
    Input(1, Reference3)  
    FileClose(1)  
  
    FileOpen(1, "MaintenanceTemp3.txt", OpenMode.Input)  
    Input(1, Item)  
    FileClose(1)  
End Sub
```

'Initialization of Form4.4

'Displaying relevant label either for Lighting or Fire Alarm System type

'Displaying the particular information for the selected item

```
'-----  
Private Sub Form4_4_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load  
    Counter = 0  
    Counter2 = 0  
    Counter3 = 0
```

```
FileOpen(1, "LightingDbase0.txt", OpenMode.Input)  
Do Until EOF(1)  
    Input(1, udtLightingDbase0(Counter).Item)  
    Input(1, udtLightingDbase0(Counter).Code)  
    Input(1, udtLightingDbase0(Counter).Location)  
    Input(1, udtLightingDbase0(Counter).Status)  
    Input(1, udtLightingDbase0(Counter).Note)  
    Input(1, udtLightingDbase0(Counter).DayLast)  
    Input(1, udtLightingDbase0(Counter).MonthLast)  
    Input(1, udtLightingDbase0(Counter).YearLast)  
    Input(1, udtLightingDbase0(Counter).DayNext)  
    Input(1, udtLightingDbase0(Counter).MonthNext)  
    Input(1, udtLightingDbase0(Counter).YearNext)  
    Input(1, udtLightingDbase0(Counter).Cost)  
    Input(1, udtLightingDbase0(Counter).Supplier)  
    Input(1, udtLightingDbase0(Counter).Contractor)  
    Counter += 1  
Loop  
FileClose(1)
```

```
FileOpen(1, "FASDbase0.txt", OpenMode.Input)  
Do Until EOF(1)  
    Input(1, udtFASDbase0(Counter3).Item)  
    Input(1, udtFASDbase0(Counter3).Code)  
    Input(1, udtFASDbase0(Counter3).Location)  
    Input(1, udtFASDbase0(Counter3).Status)  
    Input(1, udtFASDbase0(Counter3).Note)  
    Input(1, udtFASDbase0(Counter3).DayLast)  
    Input(1, udtFASDbase0(Counter3).MonthLast)  
    Input(1, udtFASDbase0(Counter3).YearLast)  
    Input(1, udtFASDbase0(Counter3).DayNext)
```

```

    Input(1, udtFASDbase0(Counter3).MonthNext)
    Input(1, udtFASDbase0(Counter3).YearNext)
    Input(1, udtFASDbase0(Counter3).Cost)
    Input(1, udtFASDbase0(Counter3).Operator)
    Counter3 += 1
Loop
FileClose(1)

RefreshList2()

RefreshList()

If Item = "Lighting" Then
    lblOperator2.Visible = False
    lblOperator.Visible = False
    lblSupplier2.Visible = True
    lblSupplier.Visible = True
    lblContractor2.Visible = True
    lblContractor.Visible = True

    lblItem.Text = udtLightingDbase0(Reference3 - 1).Item
    lblCode.Text = udtLightingDbase0(Reference3 - 1).Code
    lblLocation.Text = udtLightingDbase0(Reference3 - 1).Location
    lblStatus.Text = udtLightingDbase0(Reference3 - 1).Status
    lblNote.Text = udtLightingDbase0(Reference3 - 1).Note
    lblLastServ.Text = udtLightingDbase0(Reference3 - 1).DayLast & "/" & _
        udtLightingDbase0(Reference3 - 1).MonthLast & "/" & udtLightingDbase0(Reference3 - 1).YearLast
    lblNextServ.Text = udtLightingDbase0(Reference3 - 1).DayNext & "/" & _
        udtLightingDbase0(Reference3 - 1).MonthNext & "/" & udtLightingDbase0(Reference3 - 1).YearNext
    lblCost.Text = "RM " & udtLightingDbase0(Reference3 - 1).Cost
    lblSupplier.Text = udtLightingDbase0(Reference3 - 1).Supplier
    lblContractor.Text = udtLightingDbase0(Reference3 - 1).Contractor
ElseIf Item = "FAS" Then
    lblOperator2.Visible = True
    lblOperator.Visible = True
    lblSupplier2.Visible = False
    lblSupplier.Visible = False
    lblContractor2.Visible = False
    lblContractor.Visible = False

    lblItem.Text = udtFASDbase0(Reference3 - 1).Item
    lblCode.Text = udtFASDbase0(Reference3 - 1).Code
    lblLocation.Text = udtFASDbase0(Reference3 - 1).Location
    lblStatus.Text = udtFASDbase0(Reference3 - 1).Status
    lblNote.Text = udtFASDbase0(Reference3 - 1).Note
    lblLastServ.Text = udtFASDbase0(Reference3 - 1).DayLast & "/" & _
        udtFASDbase0(Reference3 - 1).MonthLast & "/" & udtFASDbase0(Reference3 - 1).YearLast
    lblNextServ.Text = udtFASDbase0(Reference3 - 1).DayNext & "/" & _
        udtFASDbase0(Reference3 - 1).MonthNext & "/" & udtFASDbase0(Reference3 - 1).YearNext
    lblCost.Text = "RM " & udtFASDbase0(Reference3 - 1).Cost
    lblOperator.Text = udtFASDbase0(Reference3 - 1).Operator
End If
End Sub

'Handling add item to maintenance finalization
'Ensuring only 13 items can be added per finalization
'-----

Private Sub btnAdd_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnAdd.Click
    Dim intResponse As Integer
    intResponse = MsgBox("Do you want to add the item into maintenance list?", 276, "Add to maintenance?")
    If intResponse = 6 Then
        If Counter2 < 14 Then
            'RefreshList()
            udtAddedItem(Counter2).ItemID = Reference3

            If Item = "Lighting" Then
                udtAddedItem(Counter2).ItemType = 1
            ElseIf Item = "FAS" Then
                udtAddedItem(Counter2).ItemType = 2
            End If
        End If
    End If
End Sub

```

```

End If

FileOpen(1, "AddedItem.txt", OpenMode.Output)
For intIndex = 0 To Counter2
    WriteLine(1, udtAddedItem(intIndex).ItemID, _
        udtAddedItem(intIndex).ItemType)
Next
FileClose(1)
'RefreshList()
Else
    MsgBox("You have already reached limit of 13 items per entry.Finalize first before continue", MsgBoxStyle.OKOnly +
        MsgBoxStyle.Information)
End If
Else
    Exit Sub
End If
End Sub
End Class

```

```

Public Class Form5
    Inherits System.Windows.Forms.Form

```

```

'Structure for Level 0 Lighting Database
'-----

```

```

Structure LightingDbase0
    Dim Item As String
    Dim Code As String
    Dim Location As String
    Dim Status As String
    Dim Note As String
    Dim DayLast As Integer
    Dim MonthLast As Integer
    Dim YearLast As Integer
    Dim DayNext As Integer
    Dim MonthNext As Integer
    Dim YearNext As Integer
    Dim Cost As Double
    Dim Supplier As String
    Dim Contractor As String
End Structure

```

```

'Structure for Level 0 Fire Alarm System Database
'-----

```

```

Structure FASDbase0
    Dim Item As String
    Dim Code As String
    Dim Location As String
    Dim Status As String
    Dim Note As String
    Dim DayLast As Integer
    Dim MonthLast As Integer
    Dim YearLast As Integer
    Dim DayNext As Integer
    Dim MonthNext As Integer
    Dim YearNext As Integer
    Dim Cost As Double
    Dim Operator As String
End Structure

```

```

'Structure for AddedItem
'-----

```

```

Structure AddedItem
    Dim ItemID As Integer
    Dim ItemType As Integer
End Structure

```

'Structure for MaintenanceList that have been save and updated

---

Structure **MaintenanceList**

Dim Location1 As String  
Dim Location2 As String  
Dim Location3 As String  
Dim Location4 As String  
Dim Location5 As String  
Dim Location6 As String  
Dim Location7 As String  
Dim Location8 As String  
Dim Location9 As String  
Dim Location10 As String  
Dim Location11 As String  
Dim Location12 As String  
Dim Location13 As String  
Dim Item1 As String  
Dim Item2 As String  
Dim Item3 As String  
Dim Item4 As String  
Dim Item5 As String  
Dim Item6 As String  
Dim Item7 As String  
Dim Item8 As String  
Dim Item9 As String  
Dim Item10 As String  
Dim Item11 As String  
Dim Item12 As String  
Dim Item13 As String  
Dim ExpectedCompletion1 As Integer  
Dim ExpectedCompletion2 As Integer  
Dim ExpectedCompletion3 As Integer  
Dim ExpectedCompletion4 As Integer  
Dim ExpectedCompletion5 As Integer  
Dim ExpectedCompletion6 As Integer  
Dim ExpectedCompletion7 As Integer  
Dim ExpectedCompletion8 As Integer  
Dim ExpectedCompletion9 As Integer  
Dim ExpectedCompletion10 As Integer  
Dim ExpectedCompletion11 As Integer  
Dim ExpectedCompletion12 As Integer  
Dim ExpectedCompletion13 As Integer  
Dim NextMaintenance1 As String  
Dim NextMaintenance2 As String  
Dim NextMaintenance3 As String  
Dim NextMaintenance4 As String  
Dim NextMaintenance5 As String  
Dim NextMaintenance6 As String  
Dim NextMaintenance7 As String  
Dim NextMaintenance8 As String  
Dim NextMaintenance9 As String  
Dim NextMaintenance10 As String  
Dim NextMaintenance11 As String  
Dim NextMaintenance12 As String  
Dim NextMaintenance13 As String  
Dim Cost1 As Double  
Dim Cost2 As Double  
Dim Cost3 As Double  
Dim Cost4 As Double  
Dim Cost5 As Double  
Dim Cost6 As Double  
Dim Cost7 As Double  
Dim Cost8 As Double  
Dim Cost9 As Double  
Dim Cost10 As Double  
Dim Cost11 As Double  
Dim Cost12 As Double  
Dim Cost13 As Double  
Dim TotalCost As Double

End Structure

'Declaring arrays and variables

-----

```
Dim udtLightingDbase0(500) As LightingDbase0
Dim udtMaintenanceList(500) As MaintenanceList
Dim udtFASDbase0(500) As FASDbase0
Dim udtAddedItem(14) As AddedItem
Dim Counter As Integer
Dim Counter2 As Integer
Dim Counter3 As Integer
Dim Counter4 As Integer
Dim intIndex As Integer
Dim Cost(14) As Double
Dim ChangeInDays As Integer
Dim NextDate As Date
Dim Total As Double
Dim Check As Boolean
```

'Clear the temp added item

-----

```
Public Sub ClearAddedItem()
    FileOpen(1, "AddedItem.txt", OpenMode.Output)
    WriteLine(1, 0, 0)
    FileClose(1)
End Sub
```

'GenerateReport function to be save in different files

'This generated report can be view in a way that easily understood

-----

```
Public Sub GenerateReport()
    Dim Text(84) As String

    Text(0) = Today
    Text(1) = "The summary of maintenance : "
    Text(2) = "-----"
    Text(3) = ""
    Text(4) = "Location Code : " & udtMaintenanceList(Counter3).Location1
    Text(5) = "Item : " & udtMaintenanceList(Counter3).Item1
    Text(6) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion1 & " days"
    Text(7) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance1
    Text(8) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost1
    Text(9) = ""
    Text(10) = "Location Code : " & udtMaintenanceList(Counter3).Location2
    Text(11) = "Item : " & udtMaintenanceList(Counter3).Item2
    Text(12) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion2 & " days"
    Text(13) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance2
    Text(14) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost2
    Text(15) = ""
    Text(16) = "Location Code : " & udtMaintenanceList(Counter3).Location3
    Text(17) = "Item : " & udtMaintenanceList(Counter3).Item3
    Text(18) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion3 & " days"
    Text(19) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance3
    Text(20) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost3
    Text(21) = ""
    Text(22) = "Location Code : " & udtMaintenanceList(Counter3).Location4
    Text(23) = "Item : " & udtMaintenanceList(Counter3).Item4
    Text(24) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion4 & " days"
    Text(25) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance4
    Text(26) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost4
    Text(27) = ""
    Text(28) = "Location Code : " & udtMaintenanceList(Counter3).Location5
    Text(29) = "Item : " & udtMaintenanceList(Counter3).Item5
    Text(30) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion5 & " days"
    Text(31) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance5
    Text(32) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost5
    Text(33) = ""
```

```

Text(34) = "Location Code : " & udtMaintenanceList(Counter3).Location6
Text(35) = "Item : " & udtMaintenanceList(Counter3).Item6
Text(36) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion6 & " days"
Text(37) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance6
Text(38) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost6
Text(39) = ""
Text(40) = "Location Code : " & udtMaintenanceList(Counter3).Location7
Text(41) = "Item : " & udtMaintenanceList(Counter3).Item7
Text(42) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion7 & " days"
Text(43) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance7
Text(44) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost7
Text(45) = ""
Text(46) = "Location Code : " & udtMaintenanceList(Counter3).Location8
Text(47) = "Item : " & udtMaintenanceList(Counter3).Item8
Text(48) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion8 & " days"
Text(49) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance8
Text(50) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost8
Text(51) = ""
Text(52) = "Location Code : " & udtMaintenanceList(Counter3).Location9
Text(53) = "Item : " & udtMaintenanceList(Counter3).Item9
Text(54) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion9 & " days"
Text(55) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance9
Text(56) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost9
Text(57) = ""
Text(58) = "Location Code : " & udtMaintenanceList(Counter3).Location10
Text(59) = "Item : " & udtMaintenanceList(Counter3).Item10
Text(60) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion10 & " days"
Text(61) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance10
Text(62) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost10
Text(63) = ""
Text(64) = "Location Code : " & udtMaintenanceList(Counter3).Location11
Text(65) = "Item : " & udtMaintenanceList(Counter3).Item11
Text(66) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion11 & " days"
Text(67) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance11
Text(68) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost11
Text(69) = ""
Text(70) = "Location Code : " & udtMaintenanceList(Counter3).Location12
Text(71) = "Item : " & udtMaintenanceList(Counter3).Item12
Text(72) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion12 & " days"
Text(73) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance12
Text(74) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost12
Text(75) = ""
Text(76) = "Location Code : " & udtMaintenanceList(Counter3).Location13
Text(77) = "Item : " & udtMaintenanceList(Counter3).Item13
Text(78) = "Expected Completion : " & udtMaintenanceList(Counter3).ExpectedCompletion13 & " days"
Text(79) = "Next Maintenance : " & udtMaintenanceList(Counter3).NextMaintenance13
Text(80) = "Item Cost : RM" & udtMaintenanceList(Counter3).Cost13
Text(81) = ""
Text(82) = "-----"
Text(83) = "TOTAL COST : " & lblTotal.Text

```

```

Dim intIndex2 As Integer

```

```

FileOpen(1, "Report.txt", OpenMode.Output)

```

```

For intIndex2 = 0 To 83

```

```

    WriteLine(1, Text(intIndex2))

```

```

Next

```

```

FileClose(1)

```

```

End Sub

```

'Save function

'Only items with checked check box will be save

'-----

```

Public Sub CheckAndSave()

```

```

    Dim Ref1 As Boolean

```

```

    Dim Ref2 As Boolean

```

```

    Dim Ref3 As Boolean

```

```

    Dim Ref4 As Boolean

```

```

    Dim Ref5 As Boolean

```

```

Dim Ref6 As Boolean
Dim Ref7 As Boolean
Dim Ref8 As Boolean
Dim Ref9 As Boolean
Dim Ref10 As Boolean
Dim Ref11 As Boolean
Dim Ref12 As Boolean
Dim Ref13 As Boolean
Dim Def As String

```

```

Ref1 = True
Ref2 = True
Ref3 = True
Ref4 = True
Ref5 = True
Ref6 = True
Ref7 = True
Ref8 = True
Ref9 = True
Ref10 = True
Ref11 = True
Ref12 = True
Ref13 = True
Def = "None"

```

```

If chk1.Checked = True Then
    udtMaintenanceList(Counter3).Location1 = chk1.Text
    udtMaintenanceList(Counter3).Item1 = lblItem1.Text
    udtMaintenanceList(Counter3).ExpectedCompletion1 = Val(txtExpect1.Text)
    udtMaintenanceList(Counter3).NextMaintenance1 = lblNext1.Text
    udtMaintenanceList(Counter3).Cost1 = Val(lblCost1.Text)
    Ref1 = False
End If

```

```

If chk2.Checked = True Then
    udtMaintenanceList(Counter3).Location2 = chk2.Text
    udtMaintenanceList(Counter3).Item2 = lblItem2.Text
    udtMaintenanceList(Counter3).ExpectedCompletion2 = Val(txtExpect2.Text)
    udtMaintenanceList(Counter3).NextMaintenance2 = lblNext2.Text
    udtMaintenanceList(Counter3).Cost2 = Val(lblCost2.Text)
    Ref2 = False
End If

```

```

If chk3.Checked = True Then
    udtMaintenanceList(Counter3).Location3 = chk3.Text
    udtMaintenanceList(Counter3).Item3 = lblItem3.Text
    udtMaintenanceList(Counter3).ExpectedCompletion3 = Val(txtExpect3.Text)
    udtMaintenanceList(Counter3).NextMaintenance3 = lblNext3.Text
    udtMaintenanceList(Counter3).Cost3 = Val(lblCost3.Text)
    Ref3 = False
End If

```

```

If chk4.Checked = True Then
    udtMaintenanceList(Counter3).Location4 = chk4.Text
    udtMaintenanceList(Counter3).Item4 = lblItem4.Text
    udtMaintenanceList(Counter3).ExpectedCompletion4 = Val(txtExpect4.Text)
    udtMaintenanceList(Counter3).NextMaintenance4 = lblNext4.Text
    udtMaintenanceList(Counter3).Cost4 = Val(lblCost4.Text)
    Ref4 = False
End If

```

```

If chk5.Checked = True Then
    udtMaintenanceList(Counter3).Location5 = chk5.Text
    udtMaintenanceList(Counter3).Item5 = lblItem5.Text
    udtMaintenanceList(Counter3).ExpectedCompletion5 = Val(txtExpect5.Text)
    udtMaintenanceList(Counter3).NextMaintenance5 = lblNext5.Text
    udtMaintenanceList(Counter3).Cost5 = Val(lblCost5.Text)
    Ref5 = False
End If

```

```

If chk6.Checked = True Then
    udtMaintenanceList(Counter3).Location6 = chk6.Text
    udtMaintenanceList(Counter3).Item6 = lblItem6.Text
    udtMaintenanceList(Counter3).ExpectedCompletion6 = Val(txtExpect6.Text)
    udtMaintenanceList(Counter3).NextMaintenance6 = lblNext6.Text
    udtMaintenanceList(Counter3).Cost6 = Val(lblCost6.Text)
    Ref6 = False
End If

If chk7.Checked = True Then
    udtMaintenanceList(Counter3).Location7 = chk7.Text
    udtMaintenanceList(Counter3).Item7 = lblItem7.Text
    udtMaintenanceList(Counter3).ExpectedCompletion7 = Val(txtExpect7.Text)
    udtMaintenanceList(Counter3).NextMaintenance7 = lblNext7.Text
    udtMaintenanceList(Counter3).Cost7 = Val(lblCost7.Text)
    Ref7 = False
End If

If chk8.Checked = True Then
    udtMaintenanceList(Counter3).Location8 = chk8.Text
    udtMaintenanceList(Counter3).Item8 = lblItem8.Text
    udtMaintenanceList(Counter3).ExpectedCompletion8 = Val(txtExpect8.Text)
    udtMaintenanceList(Counter3).NextMaintenance8 = lblNext8.Text
    udtMaintenanceList(Counter3).Cost8 = Val(lblCost8.Text)
    Ref8 = False
End If

If chk9.Checked = True Then
    udtMaintenanceList(Counter3).Location9 = chk9.Text
    udtMaintenanceList(Counter3).Item9 = lblItem9.Text
    udtMaintenanceList(Counter3).ExpectedCompletion9 = Val(txtExpect9.Text)
    udtMaintenanceList(Counter3).NextMaintenance9 = lblNext9.Text
    udtMaintenanceList(Counter3).Cost9 = Val(lblCost9.Text)
    Ref9 = False
End If

If chk10.Checked = True Then
    udtMaintenanceList(Counter3).Location10 = chk10.Text
    udtMaintenanceList(Counter3).Item10 = lblItem10.Text
    udtMaintenanceList(Counter3).ExpectedCompletion10 = Val(txtExpect10.Text)
    udtMaintenanceList(Counter3).NextMaintenance10 = lblNext10.Text
    udtMaintenanceList(Counter3).Cost10 = Val(lblCost10.Text)
    Ref10 = False
End If

If chk11.Checked = True Then
    udtMaintenanceList(Counter3).Location11 = chk11.Text
    udtMaintenanceList(Counter3).Item11 = lblItem11.Text
    udtMaintenanceList(Counter3).ExpectedCompletion11 = Val(txtExpect11.Text)
    udtMaintenanceList(Counter3).NextMaintenance11 = lblNext11.Text
    udtMaintenanceList(Counter3).Cost11 = Val(lblCost11.Text)
    Ref11 = False
End If

If chk12.Checked = True Then
    udtMaintenanceList(Counter3).Location12 = chk12.Text
    udtMaintenanceList(Counter3).Item12 = lblItem12.Text
    udtMaintenanceList(Counter3).ExpectedCompletion12 = Val(txtExpect12.Text)
    udtMaintenanceList(Counter3).NextMaintenance12 = lblNext12.Text
    udtMaintenanceList(Counter3).Cost12 = Val(lblCost12.Text)
    Ref12 = False
End If

If chk13.Checked = True Then
    udtMaintenanceList(Counter3).Location13 = chk13.Text
    udtMaintenanceList(Counter3).Item13 = lblItem13.Text
    udtMaintenanceList(Counter3).ExpectedCompletion13 = Val(txtExpect13.Text)
    udtMaintenanceList(Counter3).NextMaintenance13 = lblNext13.Text
    udtMaintenanceList(Counter3).Cost13 = Val(lblCost13.Text)
    Ref13 = False

```



End If

If Ref1 = True Then

    udtMaintenanceList(Counter3).Location1 = Def  
    udtMaintenanceList(Counter3).Item1 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion1 = 0  
    udtMaintenanceList(Counter3).NextMaintenance1 = Def  
    udtMaintenanceList(Counter3).Cost1 = 0

End If

If Ref2 = True Then

    udtMaintenanceList(Counter3).Location2 = Def  
    udtMaintenanceList(Counter3).Item2 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion2 = 0  
    udtMaintenanceList(Counter3).NextMaintenance2 = Def  
    udtMaintenanceList(Counter3).Cost2 = 0

End If

If Ref3 = True Then

    udtMaintenanceList(Counter3).Location3 = Def  
    udtMaintenanceList(Counter3).Item3 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion3 = 0  
    udtMaintenanceList(Counter3).NextMaintenance3 = Def  
    udtMaintenanceList(Counter3).Cost3 = 0

End If

If Ref4 = True Then

    udtMaintenanceList(Counter3).Location4 = Def  
    udtMaintenanceList(Counter3).Item4 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion4 = 0  
    udtMaintenanceList(Counter3).NextMaintenance4 = Def  
    udtMaintenanceList(Counter3).Cost4 = 0

End If

If Ref5 = True Then

    udtMaintenanceList(Counter3).Location5 = Def  
    udtMaintenanceList(Counter3).Item5 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion5 = 0  
    udtMaintenanceList(Counter3).NextMaintenance5 = Def  
    udtMaintenanceList(Counter3).Cost5 = 0

End If

If Ref6 = True Then

    udtMaintenanceList(Counter3).Location6 = Def  
    udtMaintenanceList(Counter3).Item6 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion6 = 0  
    udtMaintenanceList(Counter3).NextMaintenance6 = Def  
    udtMaintenanceList(Counter3).Cost6 = 0

End If

If Ref7 = True Then

    udtMaintenanceList(Counter3).Location7 = Def  
    udtMaintenanceList(Counter3).Item7 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion7 = 0  
    udtMaintenanceList(Counter3).NextMaintenance7 = Def  
    udtMaintenanceList(Counter3).Cost7 = 0

End If

If Ref8 = True Then

    udtMaintenanceList(Counter3).Location8 = Def  
    udtMaintenanceList(Counter3).Item8 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion8 = 0  
    udtMaintenanceList(Counter3).NextMaintenance8 = Def  
    udtMaintenanceList(Counter3).Cost8 = 0

End If

If Ref9 = True Then

    udtMaintenanceList(Counter3).Location9 = Def  
    udtMaintenanceList(Counter3).Item9 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion9 = 0

```
    udtMaintenanceList(Counter3).NextMaintenance9 = Def  
    udtMaintenanceList(Counter3).Cost9 = 0
```

```
End If
```

```
If Ref10 = True Then
```

```
    udtMaintenanceList(Counter3).Location10 = Def  
    udtMaintenanceList(Counter3).Item10 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion10 = 0  
    udtMaintenanceList(Counter3).NextMaintenance10 = Def  
    udtMaintenanceList(Counter3).Cost10 = 0
```

```
End If
```

```
If Ref11 = True Then
```

```
    udtMaintenanceList(Counter3).Location11 = Def  
    udtMaintenanceList(Counter3).Item11 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion11 = 0  
    udtMaintenanceList(Counter3).NextMaintenance11 = Def  
    udtMaintenanceList(Counter3).Cost11 = 0
```

```
End If
```

```
If Ref12 = True Then
```

```
    udtMaintenanceList(Counter3).Location12 = Def  
    udtMaintenanceList(Counter3).Item12 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion12 = 0  
    udtMaintenanceList(Counter3).NextMaintenance12 = Def  
    udtMaintenanceList(Counter3).Cost12 = 0
```

```
End If
```

```
If Ref13 = True Then
```

```
    udtMaintenanceList(Counter3).Location13 = Def  
    udtMaintenanceList(Counter3).Item13 = Def  
    udtMaintenanceList(Counter3).ExpectedCompletion13 = 0  
    udtMaintenanceList(Counter3).NextMaintenance13 = Def  
    udtMaintenanceList(Counter3).Cost13 = 0
```

```
End If
```

```
udtMaintenanceList(Counter3).TotalCost = Val(lbfTotal.Text)
```

```
FileOpen(1, "MaintenanceList.txt", OpenMode.Output)
```

```
For intIndex = 0 To Counter3
```

```
    WriteLine(1, udtMaintenanceList(intIndex).Location1, _  
        udtMaintenanceList(intIndex).Location2, udtMaintenanceList(intIndex).Location3, _  
        udtMaintenanceList(intIndex).Location4, udtMaintenanceList(intIndex).Location5, _  
        udtMaintenanceList(intIndex).Location6, udtMaintenanceList(intIndex).Location7, _  
        udtMaintenanceList(intIndex).Location8, udtMaintenanceList(intIndex).Location9, _  
        udtMaintenanceList(intIndex).Location10, udtMaintenanceList(intIndex).Location11, _  
        udtMaintenanceList(intIndex).Location12, udtMaintenanceList(intIndex).Location13, _  
        udtMaintenanceList(intIndex).Item1, udtMaintenanceList(intIndex).Item2, _  
        udtMaintenanceList(intIndex).Item3, udtMaintenanceList(intIndex).Item4, _  
        udtMaintenanceList(intIndex).Item5, udtMaintenanceList(intIndex).Item6, _  
        udtMaintenanceList(intIndex).Item7, udtMaintenanceList(intIndex).Item8, _  
        udtMaintenanceList(intIndex).Item9, udtMaintenanceList(intIndex).Item10, _  
        udtMaintenanceList(intIndex).Item11, udtMaintenanceList(intIndex).Item12, _  
        udtMaintenanceList(intIndex).Item13, udtMaintenanceList(intIndex).ExpectedCompletion1, _  
        udtMaintenanceList(intIndex).ExpectedCompletion2, udtMaintenanceList(intIndex).ExpectedCompletion3, _  
        udtMaintenanceList(intIndex).ExpectedCompletion4, udtMaintenanceList(intIndex).ExpectedCompletion5, _  
        udtMaintenanceList(intIndex).ExpectedCompletion6, udtMaintenanceList(intIndex).ExpectedCompletion7, _  
        udtMaintenanceList(intIndex).ExpectedCompletion8, udtMaintenanceList(intIndex).ExpectedCompletion9, _  
        udtMaintenanceList(intIndex).ExpectedCompletion10, udtMaintenanceList(intIndex).ExpectedCompletion11, _  
        udtMaintenanceList(intIndex).ExpectedCompletion12, udtMaintenanceList(intIndex).ExpectedCompletion13, _  
        udtMaintenanceList(intIndex).NextMaintenance1, udtMaintenanceList(intIndex).NextMaintenance2, _  
        udtMaintenanceList(intIndex).NextMaintenance3, udtMaintenanceList(intIndex).NextMaintenance4, _  
        udtMaintenanceList(intIndex).NextMaintenance5, udtMaintenanceList(intIndex).NextMaintenance6, _  
        udtMaintenanceList(intIndex).NextMaintenance7, udtMaintenanceList(intIndex).NextMaintenance8, _  
        udtMaintenanceList(intIndex).NextMaintenance9, udtMaintenanceList(intIndex).NextMaintenance10, _  
        udtMaintenanceList(intIndex).NextMaintenance11, udtMaintenanceList(intIndex).NextMaintenance12, _  
        udtMaintenanceList(intIndex).NextMaintenance13, udtMaintenanceList(intIndex).Cost1, _  
        udtMaintenanceList(intIndex).Cost2, udtMaintenanceList(intIndex).Cost3, udtMaintenanceList(intIndex).Cost4, _  
        udtMaintenanceList(intIndex).Cost5, udtMaintenanceList(intIndex).Cost6, udtMaintenanceList(intIndex).Cost7, _  
        udtMaintenanceList(intIndex).Cost8, udtMaintenanceList(intIndex).Cost9, udtMaintenanceList(intIndex).Cost10, _
```

```

        udtMaintenanceList(intIndex).Cost11, udtMaintenanceList(intIndex).Cost12, udtMaintenanceList(intIndex).Cost13, _
        udtMaintenanceList(intIndex).TotalCost)
    Next
    FileClose(1)

```

```

    Check = True
End Sub

```

'Function for calculating date for next maintenance

'-----

```

Public Sub CalculateDate()
    NextDate = DateAdd(DateInterval.Day, ChangeInDays, Today)
    NextDate = DateAdd(DateInterval.Year, 2, NextDate)
End Sub

```

'Function for calculate total cost

'This function will accumulate cost that have been selected by user

'-----

```

Public Sub CalculateTotal()
    Total = 0

    If chk1.Checked = True Then
        Total = Total + Cost(1)
    End If

    If chk2.Checked = True Then
        Total = Total + Cost(2)
    End If

    If chk3.Checked = True Then
        Total = Total + Cost(3)
    End If

    If chk4.Checked = True Then
        Total = Total + Cost(4)
    End If

    If chk5.Checked = True Then
        Total = Total + Cost(5)
    End If

    If chk6.Checked = True Then
        Total = Total + Cost(6)
    End If

    If chk7.Checked = True Then
        Total = Total + Cost(7)
    End If

    If chk8.Checked = True Then
        Total = Total + Cost(8)
    End If

    If chk9.Checked = True Then
        Total = Total + Cost(9)
    End If

    If chk10.Checked = True Then
        Total = Total + Cost(10)
    End If

    If chk11.Checked = True Then
        Total = Total + Cost(11)
    End If

    If chk12.Checked = True Then
        Total = Total + Cost(12)
    End If

```

```

If chk13.Checked = True Then
    Total = Total + Cost(13)
End If

```

```

lblTotal.Text = "RM " & Total
End Sub

```

'Enable item list 1 and displaying corresponding value  
'Disable other item list

---

```

Public Sub Enable1()
    chk1.Enabled = True
    chk2.Enabled = False
    chk3.Enabled = False
    chk4.Enabled = False
    chk5.Enabled = False
    chk6.Enabled = False
    chk7.Enabled = False
    chk8.Enabled = False
    chk9.Enabled = False
    chk10.Enabled = False
    chk11.Enabled = False
    chk12.Enabled = False
    chk13.Enabled = False

```

```

txtExpect1.Enabled = True
txtExpect2.Enabled = False
txtExpect3.Enabled = False
txtExpect4.Enabled = False
txtExpect5.Enabled = False
txtExpect6.Enabled = False
txtExpect7.Enabled = False
txtExpect8.Enabled = False
txtExpect9.Enabled = False
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False

```

```

chk1.Checked = True

```

```

If udtAddedItem(1).ItemType = 1 Then
    chk1.Text = udtLightingDbase0(udtAddedItem(1).ItemID - 1).Location
    lblItem1.Text = udtLightingDbase0(udtAddedItem(1).ItemID - 1).Code
    Cost(1) = udtLightingDbase0(udtAddedItem(1).ItemID - 1).Cost
    lblCost1.Text = "RM " & Cost(1)
ElseIf udtAddedItem(1).ItemType = 2 Then
    chk1.Text = udtFASDbase0(udtAddedItem(1).ItemID - 1).Location
    lblItem1.Text = udtFASDbase0(udtAddedItem(1).ItemID - 1).Code
    Cost(1) = udtFASDbase0(udtAddedItem(1).ItemID - 1).Cost
    lblCost1.Text = "RM " & Cost(1)

```

```

End If
End Sub

```

'Enable item list 1, 2 and displaying corresponding value  
'Disable other item list

---

```

Public Sub Enable2()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = False
    chk4.Enabled = False
    chk5.Enabled = False
    chk6.Enabled = False
    chk7.Enabled = False
    chk8.Enabled = False
    chk9.Enabled = False
    chk10.Enabled = False

```

```
chk11.Enabled = False
chk12.Enabled = False
chk13.Enabled = False
```

```
txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = False
txtExpect4.Enabled = False
txtExpect5.Enabled = False
txtExpect6.Enabled = False
txtExpect7.Enabled = False
txtExpect8.Enabled = False
txtExpect9.Enabled = False
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False
```

```
chk2.Checked = True
```

```
If udtAddedItem(2).ItemType = 1 Then
    chk2.Text = udtLightingDbase0(udtAddedItem(2).ItemID - 1).Location
    lblItem2.Text = udtLightingDbase0(udtAddedItem(2).ItemID - 1).Code
    Cost(2) = udtLightingDbase0(udtAddedItem(2).ItemID - 1).Cost
    lblCost2.Text = "RM " & Cost(2)
ElseIf udtAddedItem(2).ItemType = 2 Then
    chk2.Text = udtFASDbase0(udtAddedItem(2).ItemID - 1).Location
    lblItem2.Text = udtFASDbase0(udtAddedItem(2).ItemID - 1).Code
    Cost(2) = udtFASDbase0(udtAddedItem(2).ItemID - 1).Cost
    lblCost2.Text = "RM " & Cost(2)
End If
End Sub
```

```
'Enable item list 1, 2, 3 and displaying corresponding value
'Disable other item list
```

```
Public Sub Enable3()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = False
    chk5.Enabled = False
    chk6.Enabled = False
    chk7.Enabled = False
    chk8.Enabled = False
    chk9.Enabled = False
    chk10.Enabled = False
    chk11.Enabled = False
    chk12.Enabled = False
    chk13.Enabled = False
```

```
txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = False
txtExpect5.Enabled = False
txtExpect6.Enabled = False
txtExpect7.Enabled = False
txtExpect8.Enabled = False
txtExpect9.Enabled = False
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False
```

```
chk3.Checked = True
```

```
If udtAddedItem(3).ItemType = 1 Then
    chk3.Text = udtLightingDbase0(udtAddedItem(3).ItemID - 1).Location
```

```

lblItem3.Text = udtLightingDbase0(udtAddedItem(3).ItemID - 1).Code
Cost(3) = udtLightingDbase0(udtAddedItem(3).ItemID - 1).Cost
lblCost3.Text = "RM " & Cost(3)
ElseIf udtAddedItem(3).ItemType = 2 Then
    chk3.Text = udtFASDbase0(udtAddedItem(3).ItemID - 1).Location
    lblItem3.Text = udtFASDbase0(udtAddedItem(3).ItemID - 1).Code
    Cost(3) = udtFASDbase0(udtAddedItem(3).ItemID - 1).Cost
    lblCost3.Text = "RM " & Cost(3)
End If
End Sub

```

'Enable item list 1, 2, 3, 4 and displaying corresponding value  
'Disable other item list

---

```

Public Sub Enable4()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = True
    chk5.Enabled = False
    chk6.Enabled = False
    chk7.Enabled = False
    chk8.Enabled = False
    chk9.Enabled = False
    chk10.Enabled = False
    chk11.Enabled = False
    chk12.Enabled = False
    chk13.Enabled = False

    txtExpect1.Enabled = True
    txtExpect2.Enabled = True
    txtExpect3.Enabled = True
    txtExpect4.Enabled = True
    txtExpect5.Enabled = False
    txtExpect6.Enabled = False
    txtExpect7.Enabled = False
    txtExpect8.Enabled = False
    txtExpect9.Enabled = False
    txtExpect10.Enabled = False
    txtExpect11.Enabled = False
    txtExpect12.Enabled = False
    txtExpect13.Enabled = False

    chk4.Checked = True

    If udtAddedItem(4).ItemType = 1 Then
        chk4.Text = udtLightingDbase0(udtAddedItem(4).ItemID - 1).Location
        lblItem4.Text = udtLightingDbase0(udtAddedItem(4).ItemID - 1).Code
        Cost(4) = udtLightingDbase0(udtAddedItem(4).ItemID - 1).Cost
        lblCost4.Text = "RM " & Cost(4)
    ElseIf udtAddedItem(4).ItemType = 2 Then
        chk4.Text = udtFASDbase0(udtAddedItem(4).ItemID - 1).Location
        lblItem4.Text = udtFASDbase0(udtAddedItem(4).ItemID - 1).Code
        Cost(4) = udtFASDbase0(udtAddedItem(4).ItemID - 1).Cost
        lblCost4.Text = "RM " & Cost(4)
    End If
End Sub

```

'Enable item list 1, 2, 3, 4, 5 and displaying corresponding value  
'Disable other item list

---

```

Public Sub Enable5()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = True
    chk5.Enabled = True
    chk6.Enabled = False

```

```

chk7.Enabled = False
chk8.Enabled = False
chk9.Enabled = False
chk10.Enabled = False
chk11.Enabled = False
chk12.Enabled = False
chk13.Enabled = False

```

```

txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = False
txtExpect7.Enabled = False
txtExpect8.Enabled = False
txtExpect9.Enabled = False
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False

```

```

chk5.Checked = True

```

```

If udtAddedItem(5).ItemType = 1 Then
    chk5.Text = udtLightingDbase0(udtAddedItem(5).ItemID - 1).Location
    lblItem5.Text = udtLightingDbase0(udtAddedItem(5).ItemID - 1).Code
    Cost(5) = udtLightingDbase0(udtAddedItem(5).ItemID - 1).Cost
    lblCost5.Text = "RM " & Cost(5)
ElseIf udtAddedItem(5).ItemType = 2 Then
    chk5.Text = udtFASDbase0(udtAddedItem(5).ItemID - 1).Location
    lblItem5.Text = udtFASDbase0(udtAddedItem(5).ItemID - 1).Code
    Cost(5) = udtFASDbase0(udtAddedItem(5).ItemID - 1).Cost
    lblCost5.Text = "RM " & Cost(5)
End If
End Sub

```

```

'Enable item list 1, 2, 3, 4, 5, 6 and displaying corresponding
'value
'Disable other item list
'-----

```

```

Public Sub Enable6()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = True
    chk5.Enabled = True
    chk6.Enabled = True
    chk7.Enabled = False
    chk8.Enabled = False
    chk9.Enabled = False
    chk10.Enabled = False
    chk11.Enabled = False
    chk12.Enabled = False
    chk13.Enabled = False

```

```

txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = True
txtExpect7.Enabled = False
txtExpect8.Enabled = False
txtExpect9.Enabled = False
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False

```

chk6.Checked = True

If udtAddedItem(6).ItemType = 1 Then

chk6.Text = udtLightingDbase0(udtAddedItem(6).ItemID - 1).Location

lblItem6.Text = udtLightingDbase0(udtAddedItem(6).ItemID - 1).Code

Cost(6) = udtLightingDbase0(udtAddedItem(6).ItemID - 1).Cost

lblCost6.Text = "RM " & Cost(6)

ElseIf udtAddedItem(6).ItemType = 2 Then

chk6.Text = udtFASDbase0(udtAddedItem(6).ItemID - 1).Location

lblItem6.Text = udtFASDbase0(udtAddedItem(6).ItemID - 1).Code

Cost(6) = udtFASDbase0(udtAddedItem(6).ItemID - 1).Cost

lblCost6.Text = "RM " & Cost(6)

End If

End Sub

'Enable item list 1, 2, 3, 4, 5, 6, 7 and displaying corresponding

'value

'Disable other item list

'-----

Public Sub Enable7()

chk1.Enabled = True

chk2.Enabled = True

chk3.Enabled = True

chk4.Enabled = True

chk5.Enabled = True

chk6.Enabled = True

chk7.Enabled = True

chk8.Enabled = False

chk9.Enabled = False

chk10.Enabled = False

chk11.Enabled = False

chk12.Enabled = False

chk13.Enabled = False

txtExpect1.Enabled = True

txtExpect2.Enabled = True

txtExpect3.Enabled = True

txtExpect4.Enabled = True

txtExpect5.Enabled = True

txtExpect6.Enabled = True

txtExpect7.Enabled = True

txtExpect8.Enabled = False

txtExpect9.Enabled = False

txtExpect10.Enabled = False

txtExpect11.Enabled = False

txtExpect12.Enabled = False

txtExpect13.Enabled = False

chk7.Checked = True

If udtAddedItem(7).ItemType = 1 Then

chk7.Text = udtLightingDbase0(udtAddedItem(7).ItemID - 1).Location

lblItem7.Text = udtLightingDbase0(udtAddedItem(7).ItemID - 1).Code

Cost(7) = udtLightingDbase0(udtAddedItem(7).ItemID - 1).Cost

lblCost7.Text = "RM " & Cost(7)

ElseIf udtAddedItem(7).ItemType = 2 Then

chk7.Text = udtFASDbase0(udtAddedItem(7).ItemID - 1).Location

lblItem7.Text = udtFASDbase0(udtAddedItem(7).ItemID - 1).Code

Cost(7) = udtFASDbase0(udtAddedItem(7).ItemID - 1).Cost

lblCost7.Text = "RM " & Cost(7)

End If

End Sub

'Enable item list 1, 2, 3, 4, 5, 6, 7, 8 and displaying

'corresponding value

'Disable other item list

'-----

Public Sub Enable8()



```
chk1.Enabled = True
chk2.Enabled = True
chk3.Enabled = True
chk4.Enabled = True
chk5.Enabled = True
chk6.Enabled = True
chk7.Enabled = True
chk8.Enabled = True
chk9.Enabled = False
chk10.Enabled = False
chk11.Enabled = False
chk12.Enabled = False
chk13.Enabled = False
```

```
txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = True
txtExpect7.Enabled = True
txtExpect8.Enabled = True
txtExpect9.Enabled = False
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False
```

```
chk8.Checked = True
```

```
If udtAddedItem(8).ItemType = 1 Then
    chk8.Text = udtLightingDbase0(udtAddedItem(8).ItemID - 1).Location
    lblItem8.Text = udtLightingDbase0(udtAddedItem(8).ItemID - 1).Code
    Cost(8) = udtLightingDbase0(udtAddedItem(8).ItemID - 1).Cost
    lblCost8.Text = "RM " & Cost(8)
ElseIf udtAddedItem(8).ItemType = 2 Then
    chk8.Text = udtFASDbase0(udtAddedItem(8).ItemID - 1).Location
    lblItem8.Text = udtFASDbase0(udtAddedItem(8).ItemID - 1).Code
    Cost(8) = udtFASDbase0(udtAddedItem(8).ItemID - 1).Cost
    lblCost8.Text = "RM " & Cost(8)
End If
End Sub
```

```
'Enable item list 1, 2, 3, 4, 5, 6, 7, 8, 9 and displaying
'corresponding value
'Disable other item list
'
```

```
Public Sub Enable9()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = True
    chk5.Enabled = True
    chk6.Enabled = True
    chk7.Enabled = True
    chk8.Enabled = True
    chk9.Enabled = True
    chk10.Enabled = False
    chk11.Enabled = False
    chk12.Enabled = False
    chk13.Enabled = False
```

```
txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = True
txtExpect7.Enabled = True
```

```

txtExpect8.Enabled = True
txtExpect9.Enabled = True
txtExpect10.Enabled = False
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False

```

```

chk9.Checked = True

```

```

If udtAddedItem(9).ItemType = 1 Then
    chk9.Text = udtLightingDbase0(udtAddedItem(9).ItemID - 1).Location
    lblItem9.Text = udtLightingDbase0(udtAddedItem(9).ItemID - 1).Code
    Cost(9) = udtLightingDbase0(udtAddedItem(9).ItemID - 1).Cost
    lblCost9.Text = "RM " & Cost(9)
ElseIf udtAddedItem(9).ItemType = 2 Then
    chk9.Text = udtFASDbase0(udtAddedItem(9).ItemID - 1).Location
    lblItem9.Text = udtFASDbase0(udtAddedItem(9).ItemID - 1).Code
    Cost(9) = udtFASDbase0(udtAddedItem(9).ItemID - 1).Cost
    lblCost9.Text = "RM " & Cost(9)
End If

```

```

End Sub

```

```

'Enable item list 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and displaying
'corresponding value
'Disable other item list
'-----

```

```

Public Sub Enable10()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = True
    chk5.Enabled = True
    chk6.Enabled = True
    chk7.Enabled = True
    chk8.Enabled = True
    chk9.Enabled = True
    chk10.Enabled = True
    chk11.Enabled = False
    chk12.Enabled = False
    chk13.Enabled = False

```

```

txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = True
txtExpect7.Enabled = True
txtExpect8.Enabled = True
txtExpect9.Enabled = True
txtExpect10.Enabled = True
txtExpect11.Enabled = False
txtExpect12.Enabled = False
txtExpect13.Enabled = False

```

```

chk10.Checked = True

```

```

If udtAddedItem(10).ItemType = 1 Then
    chk10.Text = udtLightingDbase0(udtAddedItem(10).ItemID - 1).Location
    lblItem10.Text = udtLightingDbase0(udtAddedItem(10).ItemID - 1).Code
    Cost(10) = udtLightingDbase0(udtAddedItem(10).ItemID - 1).Cost
    lblCost10.Text = "RM " & Cost(10)
ElseIf udtAddedItem(10).ItemType = 2 Then
    chk10.Text = udtFASDbase0(udtAddedItem(10).ItemID - 1).Location
    lblItem10.Text = udtFASDbase0(udtAddedItem(10).ItemID - 1).Code
    Cost(10) = udtFASDbase0(udtAddedItem(10).ItemID - 1).Cost
    lblCost10.Text = "RM " & Cost(10)
End If

```

```

End Sub

```

'Enable item list 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and displaying  
'corresponding value  
'Disable other item list  
'-----

```
Public Sub Enable11()  
    chk1.Enabled = True  
    chk2.Enabled = True  
    chk3.Enabled = True  
    chk4.Enabled = True  
    chk5.Enabled = True  
    chk6.Enabled = True  
    chk7.Enabled = True  
    chk8.Enabled = True  
    chk9.Enabled = True  
    chk10.Enabled = True  
    chk11.Enabled = True  
    chk12.Enabled = False  
    chk13.Enabled = False  
  
    txtExpect1.Enabled = True  
    txtExpect2.Enabled = True  
    txtExpect3.Enabled = True  
    txtExpect4.Enabled = True  
    txtExpect5.Enabled = True  
    txtExpect6.Enabled = True  
    txtExpect7.Enabled = True  
    txtExpect8.Enabled = True  
    txtExpect9.Enabled = True  
    txtExpect10.Enabled = True  
    txtExpect11.Enabled = True  
    txtExpect12.Enabled = False  
    txtExpect13.Enabled = False  
  
    chk11.Checked = True  
  
    If udtAddedItem(11).ItemType = 1 Then  
        chk11.Text = udtLightingDbase0(udtAddedItem(11).ItemID - 1).Location  
        lblItem11.Text = udtLightingDbase0(udtAddedItem(11).ItemID - 1).Code  
        Cost(11) = udtLightingDbase0(udtAddedItem(11).ItemID - 1).Cost  
        lblCost11.Text = "RM " & Cost(11)  
    ElseIf udtAddedItem(11).ItemType = 2 Then  
        chk11.Text = udtFASDbase0(udtAddedItem(11).ItemID - 1).Location  
        lblItem11.Text = udtFASDbase0(udtAddedItem(11).ItemID - 1).Code  
        Cost(11) = udtFASDbase0(udtAddedItem(11).ItemID - 1).Cost  
        lblCost11.Text = "RM " & Cost(11)  
    End If  
End Sub
```

'Enable item list 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and  
'displaying corresponding value  
'Disable other item list  
'-----

```
Public Sub Enable12()  
    chk1.Enabled = True  
    chk2.Enabled = True  
    chk3.Enabled = True  
    chk4.Enabled = True  
    chk5.Enabled = True  
    chk6.Enabled = True  
    chk7.Enabled = True  
    chk8.Enabled = True  
    chk9.Enabled = True  
    chk10.Enabled = True  
    chk11.Enabled = True  
    chk12.Enabled = True  
    chk13.Enabled = False  
  
    txtExpect1.Enabled = True
```

```

txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = True
txtExpect7.Enabled = True
txtExpect8.Enabled = True
txtExpect9.Enabled = True
txtExpect10.Enabled = True
txtExpect11.Enabled = True
txtExpect12.Enabled = True
txtExpect13.Enabled = False

```

```

chk12.Checked = True

```

```

If udtAddedItem(12).ItemType = 1 Then
    chk12.Text = udtLightingDbase0(udtAddedItem(12).ItemID - 1).Location
    lblItem12.Text = udtLightingDbase0(udtAddedItem(12).ItemID - 1).Code
    Cost(12) = udtLightingDbase0(udtAddedItem(12).ItemID - 1).Cost
    lblCost12.Text = "RM " & Cost(12)
ElseIf udtAddedItem(12).ItemType = 2 Then
    chk12.Text = udtFASDbase0(udtAddedItem(12).ItemID - 1).Location
    lblItem12.Text = udtFASDbase0(udtAddedItem(12).ItemID - 1).Code
    Cost(12) = udtFASDbase0(udtAddedItem(12).ItemID - 1).Cost
    lblCost12.Text = "RM " & Cost(12)
End If

```

```

End Sub

```

'Enable all item list and displaying corresponding value

```

Public Sub Enable13()
    chk1.Enabled = True
    chk2.Enabled = True
    chk3.Enabled = True
    chk4.Enabled = True
    chk5.Enabled = True
    chk6.Enabled = True
    chk7.Enabled = True
    chk8.Enabled = True
    chk9.Enabled = True
    chk10.Enabled = True
    chk11.Enabled = True
    chk12.Enabled = True
    chk13.Enabled = True

```

```

txtExpect1.Enabled = True
txtExpect2.Enabled = True
txtExpect3.Enabled = True
txtExpect4.Enabled = True
txtExpect5.Enabled = True
txtExpect6.Enabled = True
txtExpect7.Enabled = True
txtExpect8.Enabled = True
txtExpect9.Enabled = True
txtExpect10.Enabled = True
txtExpect11.Enabled = True
txtExpect12.Enabled = True
txtExpect13.Enabled = True

```

```

chk13.Checked = True

```

```

If udtAddedItem(13).ItemType = 1 Then
    chk13.Text = udtLightingDbase0(udtAddedItem(13).ItemID - 1).Location
    lblItem13.Text = udtLightingDbase0(udtAddedItem(13).ItemID - 1).Code
    Cost(13) = udtLightingDbase0(udtAddedItem(13).ItemID - 1).Cost
    lblCost13.Text = "RM " & Cost(13)
ElseIf udtAddedItem(13).ItemType = 2 Then
    chk13.Text = udtFASDbase0(udtAddedItem(13).ItemID - 1).Location
    lblItem13.Text = udtFASDbase0(udtAddedItem(13).ItemID - 1).Code

```

```

        Cost(13) = udtFASDbase0(udtAddedItem(13).ItemID - 1).Cost
        lblCost13.Text = "RM " & Cost(13)
    End If
End Sub

```

'Form5 closing confirmation and ClearAddedItem

---

```

Private Sub Form5_Closing(ByVal sender As System.Object, ByVal e As _
System.ComponentModel.CancelEventArgs) Handles MyBase.Closing

```

```

    Dim intResponse As Integer
    intResponse = MsgBox("Do you really want to exit this application?", 276, "Exit?")
    If intResponse = 6 Then
        ClearAddedItem()
    End
    Else
        e.Cancel = True
    End If
End Sub

```

'Initialization of Form5 and enabling only relevant Item List

---

```

Private Sub Form5_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
    lblDateTime.Text = Format(Today, "Long Date") & ", " & Format(TimeOfDay, "Medium Time")

```

```

    Counter = 0
    Counter2 = 0
    Counter3 = 0
    Counter4 = 0
    Total = 0
    Check = False

```

```

    FileOpen(1, "AddedItem.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtAddedItem(Counter2).ItemID)
        Input(1, udtAddedItem(Counter2).ItemType)
        Counter2 += 1
    Loop
    FileClose(1)

```

```

    FileOpen(1, "LightingDbase0.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtLightingDbase0(Counter).Item)
        Input(1, udtLightingDbase0(Counter).Code)
        Input(1, udtLightingDbase0(Counter).Location)
        Input(1, udtLightingDbase0(Counter).Status)
        Input(1, udtLightingDbase0(Counter).Note)
        Input(1, udtLightingDbase0(Counter).DayLast)
        Input(1, udtLightingDbase0(Counter).MonthLast)
        Input(1, udtLightingDbase0(Counter).YearLast)
        Input(1, udtLightingDbase0(Counter).DayNext)
        Input(1, udtLightingDbase0(Counter).MonthNext)
        Input(1, udtLightingDbase0(Counter).YearNext)
        Input(1, udtLightingDbase0(Counter).Cost)
        Input(1, udtLightingDbase0(Counter).Supplier)
        Input(1, udtLightingDbase0(Counter).Contractor)
        Counter += 1
    Loop
    FileClose(1)

```

```

    FileOpen(1, "FASDbase0.txt", OpenMode.Input)
    Do Until EOF(1)
        Input(1, udtFASDbase0(Counter4).Item)
        Input(1, udtFASDbase0(Counter4).Code)
        Input(1, udtFASDbase0(Counter4).Location)
        Input(1, udtFASDbase0(Counter4).Status)
        Input(1, udtFASDbase0(Counter4).Note)
        Input(1, udtFASDbase0(Counter4).DayLast)

```

```

Input(1, udtFASDbase0(Counter4).MonthLast)
Input(1, udtFASDbase0(Counter4).YearLast)
Input(1, udtFASDbase0(Counter4).DayNext)
Input(1, udtFASDbase0(Counter4).MonthNext)
Input(1, udtFASDbase0(Counter4).YearNext)
Input(1, udtFASDbase0(Counter4).Cost)
Input(1, udtFASDbase0(Counter4).Operator)
Counter4 += 1
Loop
FileClose(1)

FileOpen(1, "MaintenanceList.txt", OpenMode.Input)
Do Until EOF(1)
    Input(1, udtMaintenanceList(Counter3).Location1)
    Input(1, udtMaintenanceList(Counter3).Location2)
    Input(1, udtMaintenanceList(Counter3).Location3)
    Input(1, udtMaintenanceList(Counter3).Location4)
    Input(1, udtMaintenanceList(Counter3).Location5)
    Input(1, udtMaintenanceList(Counter3).Location6)
    Input(1, udtMaintenanceList(Counter3).Location7)
    Input(1, udtMaintenanceList(Counter3).Location8)
    Input(1, udtMaintenanceList(Counter3).Location9)
    Input(1, udtMaintenanceList(Counter3).Location10)
    Input(1, udtMaintenanceList(Counter3).Location11)
    Input(1, udtMaintenanceList(Counter3).Location12)
    Input(1, udtMaintenanceList(Counter3).Location13)
    Input(1, udtMaintenanceList(Counter3).Item1)
    Input(1, udtMaintenanceList(Counter3).Item2)
    Input(1, udtMaintenanceList(Counter3).Item3)
    Input(1, udtMaintenanceList(Counter3).Item4)
    Input(1, udtMaintenanceList(Counter3).Item5)
    Input(1, udtMaintenanceList(Counter3).Item6)
    Input(1, udtMaintenanceList(Counter3).Item7)
    Input(1, udtMaintenanceList(Counter3).Item8)
    Input(1, udtMaintenanceList(Counter3).Item9)
    Input(1, udtMaintenanceList(Counter3).Item10)
    Input(1, udtMaintenanceList(Counter3).Item11)
    Input(1, udtMaintenanceList(Counter3).Item12)
    Input(1, udtMaintenanceList(Counter3).Item13)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion1)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion2)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion3)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion4)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion5)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion6)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion7)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion8)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion9)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion10)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion11)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion12)
    Input(1, udtMaintenanceList(Counter3).ExpectedCompletion13)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance1)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance2)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance3)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance4)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance5)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance6)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance7)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance8)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance9)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance10)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance11)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance12)
    Input(1, udtMaintenanceList(Counter3).NextMaintenance13)
    Input(1, udtMaintenanceList(Counter3).Cost1)
    Input(1, udtMaintenanceList(Counter3).Cost2)
    Input(1, udtMaintenanceList(Counter3).Cost3)
    Input(1, udtMaintenanceList(Counter3).Cost4)
    Input(1, udtMaintenanceList(Counter3).Cost5)

```

```

    Input(1, udtMaintenanceList(Counter3).Cost6)
    Input(1, udtMaintenanceList(Counter3).Cost7)
    Input(1, udtMaintenanceList(Counter3).Cost8)
    Input(1, udtMaintenanceList(Counter3).Cost9)
    Input(1, udtMaintenanceList(Counter3).Cost10)
    Input(1, udtMaintenanceList(Counter3).Cost11)
    Input(1, udtMaintenanceList(Counter3).Cost12)
    Input(1, udtMaintenanceList(Counter3).Cost13)
    Input(1, udtMaintenanceList(Counter3).TotalCost)
    Counter3 += 1
Loop
FileClose(1)

If Counter2 = 2 Then
    Enable1()
    CalculateTotal()
ElseIf Counter2 = 3 Then
    Enable1()
    Enable2()
    CalculateTotal()
ElseIf Counter2 = 4 Then
    Enable1()
    Enable2()
    Enable3()
    CalculateTotal()
ElseIf Counter2 = 5 Then
    Enable1()
    Enable2()
    Enable3()
    Enable4()
    CalculateTotal()
ElseIf Counter2 = 6 Then
    Enable1()
    Enable2()
    Enable3()
    Enable4()
    Enable5()
    CalculateTotal()
ElseIf Counter2 = 7 Then
    Enable1()
    Enable2()
    Enable3()
    Enable4()
    Enable5()
    Enable6()
    CalculateTotal()
ElseIf Counter2 = 8 Then
    Enable1()
    Enable2()
    Enable3()
    Enable4()
    Enable5()
    Enable6()
    Enable7()
    CalculateTotal()
ElseIf Counter2 = 9 Then
    Enable1()
    Enable2()
    Enable3()
    Enable4()
    Enable5()
    Enable6()
    Enable7()
    Enable8()
    CalculateTotal()
ElseIf Counter2 = 10 Then
    Enable1()
    Enable2()
    Enable3()
    Enable4()

```

```

        Enable5()
        Enable6()
        Enable7()
        Enable8()
        Enable9()
        CalculateTotal()
    ElseIf Counter2 = 11 Then
        Enable1()
        Enable2()
        Enable3()
        Enable4()
        Enable5()
        Enable6()
        Enable7()
        Enable8()
        Enable9()
        Enable10()
        CalculateTotal()
    ElseIf Counter2 = 12 Then
        Enable1()
        Enable2()
        Enable3()
        Enable4()
        Enable5()
        Enable6()
        Enable7()
        Enable8()
        Enable9()
        Enable10()
        Enable11()
        CalculateTotal()
    ElseIf Counter2 = 13 Then
        Enable1()
        Enable2()
        Enable3()
        Enable4()
        Enable5()
        Enable6()
        Enable7()
        Enable8()
        Enable9()
        Enable10()
        Enable11()
        Enable12()
        CalculateTotal()
    ElseIf Counter2 = 14 Then
        Enable1()
        Enable2()
        Enable3()
        Enable4()
        Enable5()
        Enable6()
        Enable7()
        Enable8()
        Enable9()
        Enable10()
        Enable11()
        Enable12()
        Enable13()
        CalculateTotal()
    End If
End Sub

```

'Handling button Back to Form4 and also confirmation  
 -----

```

Private Sub btnBack_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnBack.Click
    Dim intResponse As Integer

    If Check = False Then

```



```

intResponse = MsgBox("You still didn't save the information. Do you still want to proceed ?", 276, "Proceed?")
If intResponse = 6 Then
    Me.Hide()
    Dim frmTest2 As Form4
    frmTest2 = New Form4()
    frmTest2.Show()
Else
    Exit Sub
End If
ElseIf Check = True Then
    Me.Hide()
    Dim frmTest2 As Form4
    frmTest2 = New Form4()
    frmTest2.Show()
End If
End Sub

'Logout confirmation and ClearAddedItem
'-----

Private Sub btnLogout_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnLogout.Click
    Dim intResponse As Integer

    If Check = False Then
        intResponse = MsgBox("You still didn't save the information. If you continue you will lose all the unsave information. Do you still want to logout ?", 276, "Logout?")
        If intResponse = 6 Then
            ClearAddedItem()
            Me.Hide()
            Dim frmTest As Form1
            frmTest = New Form1()
            frmTest.Show()
        Else
            Exit Sub
        End If
    ElseIf Check = True Then
        intResponse = MsgBox("Do you really want to logout?", 276, "Logout?")
        If intResponse = 6 Then
            ClearAddedItem()
            Me.Hide()
            Dim frmTest As Form1
            frmTest = New Form1()
            frmTest.Show()
        Else
            Exit Sub
        End If
    End If
End Sub

'Handling Form2 loading as main form and also confirmation
'-----

Private Sub btnMain_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnMain.Click
    Dim intResponse As Integer

    If Check = False Then
        intResponse = MsgBox("You still didn't save the information. Do you still want to proceed?", 276, "Proceed?")
        If intResponse = 6 Then
            Me.Hide()
            Dim frmTest As Form2
            frmTest = New Form2()
            frmTest.Show()
        Else
            Exit Sub
        End If
    ElseIf Check = True Then
        Me.Hide()
        Dim frmTest As Form2
        frmTest = New Form2()
        frmTest.Show()
    End If
End Sub

```

```
End If
End Sub
```

'Handling Cancel All button by uncheck all the check box

```
Private Sub btnCancelAll_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnCancelAll.Click
    chk1.Checked = False
    chk2.Checked = False
    chk3.Checked = False
    chk4.Checked = False
    chk5.Checked = False
    chk6.Checked = False
    chk7.Checked = False
    chk8.Checked = False
    chk9.Checked = False
    chk10.Checked = False
    chk11.Checked = False
    chk12.Checked = False
    chk13.Checked = False

    CalculateTotal()
End Sub
```

'Handling changes in all check box

'Calculating back the Total Cost when there are changes in check box

```
Private Sub chk1_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk1.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk2_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk2.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk3_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk3.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk4_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk4.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk5_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk5.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk6_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk6.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk7_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk7.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk8_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk8.CheckedChanged
    CalculateTotal()
End Sub
```

```
Private Sub chk9_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk9.CheckedChanged
```

```

    CalculateTotal()
End Sub

Private Sub chk10_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk10.CheckedChanged
    CalculateTotal()
End Sub

Private Sub chk11_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk11.CheckedChanged
    CalculateTotal()
End Sub

Private Sub chk12_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk12.CheckedChanged
    CalculateTotal()
End Sub

Private Sub chk13_CheckedChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
chk13.CheckedChanged
    CalculateTotal()
End Sub

'Handling changes in expected completion duration
'New next maintenance date will be calculate according to the change
'-----

Private Sub txtExpect1_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect1.TextChanged
    ChangeInDays = Val(txtExpect1.Text)
    If txtExpect1.Text <> "" Then
        CalculateDate()
        lblNext1.Text = NextDate
    Else
        lblNext1.Text = ""
    End If
End Sub

Private Sub txtExpect2_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect2.TextChanged
    ChangeInDays = Val(txtExpect2.Text)
    If txtExpect2.Text <> "" Then
        CalculateDate()
        lblNext2.Text = NextDate
    Else
        lblNext2.Text = ""
    End If
End Sub

Private Sub txtExpect3_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect3.TextChanged
    ChangeInDays = Val(txtExpect3.Text)
    If txtExpect3.Text <> "" Then
        CalculateDate()
        lblNext3.Text = NextDate
    Else
        lblNext3.Text = ""
    End If
End Sub

Private Sub txtExpect4_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect4.TextChanged
    ChangeInDays = Val(txtExpect4.Text)
    If txtExpect4.Text <> "" Then
        CalculateDate()
        lblNext4.Text = NextDate
    Else
        lblNext4.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect5_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect5.TextChanged
    ChangeInDays = Val(txtExpect5.Text)
    If txtExpect5.Text <> "" Then
        CalculateDate()
        lblNext5.Text = NextDate
    Else
        lblNext5.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect6_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect6.TextChanged
    ChangeInDays = Val(txtExpect6.Text)
    If txtExpect6.Text <> "" Then
        CalculateDate()
        lblNext6.Text = NextDate
    Else
        lblNext6.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect7_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect7.TextChanged
    ChangeInDays = Val(txtExpect7.Text)
    If txtExpect7.Text <> "" Then
        CalculateDate()
        lblNext7.Text = NextDate
    Else
        lblNext7.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect8_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect8.TextChanged
    ChangeInDays = Val(txtExpect8.Text)
    If txtExpect8.Text <> "" Then
        CalculateDate()
        lblNext8.Text = NextDate
    Else
        lblNext8.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect9_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect9.TextChanged
    ChangeInDays = Val(txtExpect9.Text)
    If txtExpect9.Text <> "" Then
        CalculateDate()
        lblNext9.Text = NextDate
    Else
        lblNext9.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect10_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect10.TextChanged
    ChangeInDays = Val(txtExpect10.Text)
    If txtExpect10.Text <> "" Then
        CalculateDate()
        lblNext10.Text = NextDate
    Else
        lblNext10.Text = ""
    End If
End Sub

```

```

Private Sub txtExpect11_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect11.TextChanged
    ChangeInDays = Val(txtExpect11.Text)
    If txtExpect11.Text <> "" Then

```

```

        CalculateDate()
        lblNext11.Text = NextDate
    Else
        lblNext11.Text = ""
    End If
End Sub

Private Sub txtExpect12_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect12.TextChanged
    ChangeInDays = Val(txtExpect12.Text)
    If txtExpect12.Text <> "" Then
        CalculateDate()
        lblNext12.Text = NextDate
    Else
        lblNext12.Text = ""
    End If
End Sub

Private Sub txtExpect13_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles
txtExpect13.TextChanged
    ChangeInDays = Val(txtExpect13.Text)
    If txtExpect13.Text <> "" Then
        CalculateDate()
        lblNext13.Text = NextDate
    Else
        lblNext13.Text = ""
    End If
End Sub

'Handling save maintenance list selected and also confirmation
'-----

Private Sub btnSave_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnSave.Click
    Dim intResponse As Integer
    intResponse = MsgBox("Do you want to save and update the chosen items?", 276, "Save?")
    If intResponse = 6 Then
        CheckAndSave()
        ClearAddedItem()
    Else
        Exit Sub
    End If
End Sub

'Handling generate report
'Ask to save the update first before report can be generated
'-----

Private Sub btnReport_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnReport.Click
    Dim intResponse As Integer
    intResponse = MsgBox("Do you want to generate report?", 276, "Generate Report?")
    If intResponse = 6 Then
        If Check = True Then
            GenerateReport()
        ElseIf Check = False Then
            MsgBox("Please save the maintenance before the generate the report.", MsgBoxStyle.OKOnly + MsgBoxStyle.Critical)
        End If
    Else
        Exit Sub
    End If
End Sub
End Class

```